I. RELEVANCE

Recent tragic events and the current Global War on Terrorism clearly show the benefits of preparedness and training. It is gratifying to know USUHS is leading the way in preparing military health care professionals to meet current and future challenges. Please accept my appreciation and pass on a hearty "Well Done!" to your colleagues and the students for their dedicated efforts in support of our men and women in uniform.

- **General Richard B Myers, Chairman of the Joint Chiefs of Staff**, Letter to USU, March 29, 2002.

Due to both the extensive military training provided only in the multi-Service environment of USUHS and the extraordinary retention rates of the USUHS graduates who serve, on average, at least 18.5 years, USUHS has met, or has exceeded, the goals set by Congress.

- Resolution Number 71, The Eighty-Fourth National Convention of **The American Legion**, August 27-29, 2002.

The Army appreciates the many contributions of the Uniformed Services University and the high quality of the Army physicians and other medical personnel who graduate. Clearly, training provided to the students at the University is world class.

- **The Honorable John P. McLaurin III, Deputy Assistant Secretary of Defense (Human Resources)**, letter to USU on behalf of the Secretary of the Army, May 1, 2002.

The accrediting commission pointed out in its summary findings to the University that the mission and philosophy of the USUHS Graduate School of Nursing (GSN) is grounded in the University's mission and in the mission of the Uniformed Services. The GSN curriculum is designed to be specific to the unique mission of military service nurses: to serve in times of war and peace.

- Congressional Record, Tribute to Dr. Faye Glenn Abdellah, **The Honorable Daniel K. Inouye, the United States Senate**, May 16, 2002, pages S4488-S4489.

As a member of the USUHS Board of Regents and the USUHS Executive Committee, and as the designated Executive Agent for the University, I am pleased to say that the University's focus on relevance, readiness, and optimization continues to be aligned with both its establishing legislation and the special needs of the Military Health System (MHS). The University, which holds full accreditation from its fourteen accrediting organizations, continues to meet and exceed its mission to provide continuity and leadership for the MHS. The University's mission statement, *Learning to Care for Those in Harm's Way*, succinctly captures its essential commitment to Force Health Protection... Today, USUHS is reaching out to other Federal agencies and the civilian medical communities to share its curricula and expertise. I echo the assessment of USUHS provided by the Secretary of Defense on March 22, 2001. "The training USUHS students receive in combat and peacetime health care is essential to providing superior force health protection. We place great emphasis on the retention of quality physicians in the military." USUHS is a unique national asset and a vital integrated part of the Military Health System.

- **Vice Admiral Michael L. Cowan, Surgeon General of the Navy**, Testimony before the House Armed Services Committee, Subcommittee on Military Personnel, April 10, 2002, pages 20-21.

I truly wish there was some way we could bring all 535 members of Congress to see USUHS so they would fully appreciate the national resource that sits in their back yard. The work you do has never been more important or relevant.

- **Kenneth A. Goss, Director, Government Relations, The Air Force Association**, Letter to USU, January 30, 2002.

Each of our 3,268 physician graduates has received in-depth instruction in the recognition, diagnosis, management, and decontamination of casualties from weapons of mass destruction (WMD). Since its inception in 1972, USUHS has attracted researchers and educators who are focused on these critical issues. WMD education is integrated into our undergraduate medical curriculum through didactic classroom/ laboratory instruction and relevant field exercises. To our knowledge, we are the only medical school in the United States to provide such material. Further, our Department of Pathology conducts a well-recognized graduate level course entitled "The Scientific, Domestic and International Policy Challenges of Weapons

of Mass Destruction and Terror." This unique course incorporates a simulated terrorist attack, utilizing our Medical Simulation Center. The strength of the USUHS Simulation Center is its capacity to design specific crises for students to gain familiarity with unusual events.

- **USU Board of Regents**, Report to the Secretary of Defense, June 1, 2002, page 2.

I was extremely impressed by your facility, the staff as well as the students whom I had the opportunity to meet. An institution the caliber of the Uniformed Services University of the Health Sciences is unparalleled. I felt the enthusiasm reflected by the staff and students. I truly appreciate your fine facility and the unique training it is providing to our future military leaders

- **The Honorable Thomas V. Colella, Principal Deputy Assistant Secretary of the Navy (Manpower and ReserveAffairs)**, Letter to USU, February 27, 2002.

The Department takes great pride in the fact that the USUHS graduates have become the *backbone for our Military Health System*. The training they receive in combat and peacetime medicine is essential to providing superior force health protection and improving the quality of life for our service members, retirees, and families. All of us in the Office of the Secretary of Defense place great emphasis on the retention of quality physicians in the military. The USUHS ensures those goals are met.

- **The Honorable Donald Rumsfeld, Secretary of Defense**, Letter to the Chairman of the USU Board of Regents, dated March 22, 2001.

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I. THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES (USU)

The University community completed the Year 2002 with renewed dedication to public service and its mission-driven goal of *Learning to Care for Those in Harm's Way*. In accordance with strategic guidance, the University has continued its focused attention on: RELEVANCE - the critical, or core relevance, of its unique mission to provide continuity, leadership, and responsiveness to the special needs of the Military Health System (MHS); READINESS - the provision of physicians, advanced practice nurses, and graduate degree recipients who are uniquely qualified to respond to the aftermath of weapons of mass destruction (WMD) and to provide assistance during humanitarian, disaster, or operational contingencies; and, OPTIMIZATION - the cost-effective management of its resources to ensure the generation of annual cost avoidance for the MHS through its multiple, fully accredited programs (estimated cost avoidance during 2002 was $24.6 million).

ESTABLISHMENT, DEVELOPMENT, AND GOVERNANCE

The Uniformed Services Health Professions Revitalization Act of 1972 Establishes the University. Public Law 92-426, *the Uniformed Services Health Professions Revitalization Act of 1972*, established the University as a separate agency within the Department of Defense (DoD). Planning for the development of USU began with the **President of the United States Richard Nixon's** appointment of a Board of Regents and **Anthony R. Curreri, M.D.,** as the University's first President in 1974. Initial efforts were focused on establishing the USU School of Medicine (SOM) as the University's first academic program.

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Collaborative Efforts by the Joint Services and Civilian Medical Communities in the Development of the University. The initial development of objectives for the USU SOM was accomplished through the combined efforts of the USU Board of Regents; the Board of Regents' Educational Affairs Committee; **Doctor Curreri**; the USU SOM Dean, **Jay Sanford, M.D.**; and, special working groups. Activities used to develop these objectives included committee meetings, retreats, and consultation with a variety of experts from military medicine and civilian medical organizations and institutions. Individuals and groups consulted included: the Surgeons General of the Army, Navy, and Air Force; Chiefs of the Medical Departments/Services of the Army, Navy, and Air Force; physicians from the Walter Reed Army Medical Center, the National Naval Medical Center at Bethesda, the Malcolm Grow United States Air Force Medical Center at Andrews Air Force Base, the Wilford Hall United States Air Force Medical Center, the United States Army Academy of Health Sciences, the Sheppard Air Force Base Academy of Health Sciences, the Brooke Army Medical Center, and the Armed Forces Institute of Pathology; the Secretary of the Air Force; the Secretary of the Navy; the Association of American Medical Colleges (AAMC); the American Medical Association (AMA); the Liaison Committee on Medical Education (LCME); the Department of Health, Education, and Welfare; the National Institutes of Health (NIH); George Washington University; Georgetown University; and, Howard University. The fine tradition of the University's identifying and responding to the special needs of the Uniformed Services has been an on-going process since 1974.

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DoD Directive 5105.45. Significant changes in the USU governance structure resulted from actions taken during 1991. On April 15, 1991, the Secretary of Defense revised the DoD Directive for Health Affairs, 5136.1, to delegate responsibility for the University from his office to the Assistant Secretary of Defense for Health Affairs (ASD/HA). The authority to appoint the President of the University was retained by the Secretary of Defense. On April 19, 1991, the DoD Directive for USU, 5105.45, was updated to reflect those changes and to define in detail the mission, organization, responsibilities, functions, relationships, authorities, and governance of the University. In a memorandum dated May 3, 1991, the ASD/HA re-delegated the authority for the day-to-day management of the University to the USU President; the current delegation of authority to the USU President for the on-going management of the University is also included in DoD Directive 5105.45. (A copy of the current revision of DoD Directive 5105.45, dated March 9, 2000, is at Appendix A.)

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Board of Regents' Charter. Prior to 1991, the USU Board of Regents (BOR) had been an independent policy-making body; it is now an advisory committee to the Secretary of Defense. A Charter for the BOR was approved by the Office of the Secretary of Defense (OSD) on April 1, 1991; the most current edition of the BOR Charter is dated April 4, 2003. The Charter defines the objectives and scope of the BOR to: 1) provide advice and guidance to the Secretary of Defense through the ASD/HA for the operation of USU; and, 2) assure that the University operates in the best tradition of academia and is in compliance with the appropriate authorities on accreditation. The USU administration and faculty provided substantial input into the revision of both the USU DoD Directive and the BOR Charter. As a result, the administrative/governance documents of 1991 reflect the coordinated efforts of the ASD/HA, the BOR, the USU administration and activity heads, SOM department chairs, the SOM Faculty Senate, and the Dean's Executive Advisory Committee. In addition, during this process, the Acting Dean of the SOM coordinated with, and briefed, the LCME and the Commission on Higher Education of the Middle States Association of Colleges and Schools to ensure compliance with the University's accrediting entities on issues regarding governance and administration. To codify the Board's activities, BOR Bylaws were written during 2000 under the leadership of **Lonnie R. Bristow, M.D., Chair, USU Board of Regents**. On February 6, 2001, the BOR Bylaws were approved. (Copies of the current BOR Charter and Bylaws are at Appendix A.)

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USU and the 1998 Defense Reform Initiative. In November of 1997, **William Cohen, Secretary of Defense,** substantiated his support of the University by including USU as part of his Fiscal Year 1998 Defense Reform Initiative (DRI). Program Budget Decision (PBD) 711 issued on December 17, 1997, outlined the DRI and moved USU from under the direct oversight of the Office of Health Affairs, Office of the Secretary of Defense (OSD), to the collective oversight of the Surgeons General of the Army, Navy and Air Force. The PBD ensured manpower and funding for USU and established the Surgeon General of the Navy as the Executive Agent for program, budget, and funding execution responsibilities. ***The PBD also directed that the University's funding would continue to be programmed, budgeted, and executed within the Defense Health Program.***

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The Establishment of the USU Executive Committee. The administrative process for fiscal matters was defined during 1998 by the ASD/HA, in consultation with the USU BOR, the USU administration, and the Surgeons General. As a result, DoD Directive 5105.45 was updated on May 17, 1999, to include the formal establishment of the USU Executive Committee (to be composed of the three military Surgeons General; current membership includes: **Lieutenant General James B. Peake, Surgeon General of the Army**; **Vice Admiral Michael L. Cowan, Surgeon General of the Navy**; and, **Lieutenant General George P. Taylor, Jr., Surgeon General of the Air Force**) to provide management oversight for the University. As outlined in DoD Directive 5105.45, the USU President reports through the Executive Committee to the ASD/HA. The Executive Committee, chaired by **Lieutenant General James B. Peake**, conducts meetings that focus on important academic and administrative issues at the University. The USU Executive Committee and the USU Board of Regents have developed a close working relationship in a shared effort to enhance the academic and administrative programs at the University (a copy of the current Charter for the USU Executive Committee dated December 18, 2000, is at Appendix A).

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As a member of the Uniformed Services University of the Health Sciences (USUHS) Board of Regents and the USUHS Executive Committee, and as the designated Executive Agent for the University, I am pleased to say that the University's focus on relevance, readiness, and optimization continues to be aligned with both its establishing legislation and the special needs of the Military Health System (MHS). The University, which holds accreditation from its fourteen accrediting organizations, continues to meet and exceed its mission to provide continuity and leadership for the MHS.

- **Vice Admiral Michael L. Cowan, Surgeon General of the Navy,** Testimony before the House Armed Services Committee, Military Personnel Subcommittee, April 10, 2002.

Responsibilities of the Navy as the Executive Agent for USU. As the Executive Agent, the Navy Surgeon General's Office provides oversight for the University's budgeting and programming activities. The DoD Directive 5105.45 further clarifies that the USU funding and personnel requirements will not be offset against the Navy Surgeon General's budget or work-year allocations; thus, USU funding remains within the Defense Health Program.

USU Employees Become Navy Employees. Section 7.2.1 of Directive 5105.45 also directs that USU civilian personnel authorizations will be under the purview of the DoD Executive Agent (Navy) and that USU civilian employees should be moved from OSD and carried on the rolls of the Department of the Navy. The USU civilian employees officially converted from OSD to Navy employees with the changing of the University's Subelement and Unit Identification Code at the end of Fiscal Year 1999. All official reporting documents reflect this change.

An inclusive review of the USU personnel instructions to assure compliance with the Navy personnel instructions was completed by the USU Civilian Human Resources Directorate during 2000; and, a Navy-conducted review and evaluation of the USU Civilian Human Resources Directorate was conducted on January 14-15, 2002. The Navy review team found that *the USU Civilian Human Resources Directorate was in compliance with the self-assessment requirements of SECNAV Instruction 12273.1 of March 16, 1999, with no corrective actions required*.

Following the implementation of the Modern Defense Civilian Personnel Data System (MDCPDS) during August of 2001, both the USU government service/wage grade (GS/WG) and the USU administratively determined (AD) employees had to be manually reported as Navy civilian employees pending the revision of computer software, which occurred during 2002. It was agreed that the Human Resource Services Center (HRSC) of Washington Headquarters Services (WHS) would continue to service the University for its personnel requirements through 2002. By March of 2003, upon the completion of all software and coordination requirements, all USU personnel services had been placed under the purview of the Navy; payroll services were placed under the Navy payroll office by mid-2003.

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The Department takes great pride in the fact that the USUHS graduates have become the *backbone* for our Military Health System. The training they receive in combat and peacetime medicine is essential to providing superior force health protection, and improving the quality of life for our service members, retirees, and families. All of us in the Office of the Secretary of Defense place great emphasis on the retention of quality physicians in the military. The USUHS ensures those goals are met. I look forward to continued excellence from the University.

- **The Honorable Donald Rumsfeld, Secretary of Defense,** Letter to the Chair of the USU Board of Regents, dated March 22, 2001.

A Strengthened Relationship Between USU and DoD. The evolving relationship between the USU and DoD from 1991 through 2002 has proven beneficial to the University and the MHS. This new relationship has clarified and strengthened the position of the University within the entire DoD structure. The expansion of the oversight role of the Executive Committee (the three military Surgeons General) over USU has proven to be quite positive in terms of strategically identifying the ever-changing requirements of the MHS and evaluating how USU is currently meeting the needs of its primary customers, the Surgeons General. One example of the successful relationship of USU with the Surgeons General and OSD was evidenced by the presentation of the Joint Meritorious Unit Award by **The Honorable William S. Cohen, the Secretary of Defense,** to the University on December 11, 2000. In addition, on March 22, 2001, **The Honorable Donald Rumsfeld, the current Secretary of Defense**, also confirmed his on-going support for the critical mission of the University (as quoted above).

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USU BOARD OF REGENTS.

Although the events of September 11, 2001, have galvanized the Nation, much of our work was on-going long before then. In November 2001, School of Medicine Dean, Dr. Val Hemming noted in testimony before the House Committee on Veterans' Affairs, Subcommittee on Oversight and Investigations, that each of our 3,200 physician graduates has received in-depth instruction in recognition, diagnosis, management, and decontamination of casualties from weapons of mass destruction (WMD). Since its inception in 1976 (with the enrollment of the first SOM Class of l980), **USU has attracted researchers and educators who are focused on these critical issues. WMD education is integrated into our undergraduate medical curriculum through didactic classroom/ laboratory instruction and relevant field exercises... Further, our Department of Pathology conducts a well-recognized graduate level course entitled, *The Scientific, Domestic and International Policy Challenges of Weapons of Mass Destruction and Terror*. This unique course incorporates a simulated terrorist attack, utilizing our Medical Simulation Center. The strength of this Center is the capacity to design specific crises for students to gain familiarity with unusual events.**

- USU Board of Regents Annual Report to the Secretary of Defense, June 1, 2002, page two.

Membership of the Board of Regents. The USU Board of Regents (BOR) is an advisory committee governed by the Federal Advisory Committee Act (Public Law 92-463, Section 1), the General Services Administration Final Rule (41 C.F.R. Part 101-6), and Department of Defense Directive 5105.45. The nine members of the Board are distinguished academics, educators, health care providers and public servants; and, they are Presidential appointees confirmed by the United States Senate. As of April 2003, the USU BOR includes the following individuals: **Everett Alvarez, Jr., J.D., Chair**; **Linda J. Stierle, MSN, RN, CNAA, Vice Chair**; **Otis Webb Brawley, M.D.**; **Lonnie R. Bristow, M.D.**; **L.D. Britt, M.D.**; **John E. Connolly, M.D.**; **William C. De La Peña, M.D.**; **Ikram U. Khan, M.D.**; and, **Vinicio E. Madrigal, M.D.**

Newly Appointed Members of the BOR.

Otis Webb Brawley, M.D., was confirmed by the United States Senate to be a Member of the USU Board of Regents on November 14, 2002; and, he was sworn in as a member of the BOR on February 4, 2003. Since June of 2001, Doctor Brawley has held the position of Professor of Medicine, Hematology and Oncology at Emory University School of Medicine; and, he holds the title of Professor of Epidemiology at the Rollins School of Public Health, Emory University in Atlanta, Georgia. In addition, he has held the position of Senior Investigator (Tenured), Division of Cancer Prevention, at the National Cancer Institute from 1996 to present; and, he has served as the Assistant Director, National Cancer Institute, Office of Special Populations Research, from June of 1996 to present. Doctor Brawley completed his Medical Staff Fellowship in Medical Oncology at the Medicine Branch, National Cancer Institute in 1990; and, he has Board Certifications with: the National Board of Medical Examiners (1986); Internal Medicine (1988); and, Medical Oncology (1993). Doctor Brawley has also been recognized with numerous Fellowships, Scholarships and other special appointments; and, he is the co-author of more than 80 scientific publications and has presented more than 25 invited talks at national and international meetings since 1996.

L.D. Britt, M.D., M.P.H., F.A.C.S., F.C.C.M., was confirmed by the United States Senate to be a member of the USU Board of Regents on August 1, 2002. Doctor Britt is currently the Chairman, Department of Surgery, and the Chairman, Council of Clinical Chairmen, at the Eastern Virginia Medical School in Norfolk, Virginia. He is a member of numerous distinguished committees and boards, such as: the Federation of State Medical Boards of the United States, Inc., USMLE Step 3 Committee Member; the American Surgical Education Foundation, Board of Directors; the Central Judiciary Committee, American College of Surgeons Board of Regents; the USMLE Committee on Irregular Behavior and Score Validity; and, the Board of Regents, American College of Surgeons. Among his notable honors, he has been selected: America's Top Doctors, Castel Connolly Medical, Ltd. (2002); Honorary Man of Tomorrow, Beta Theta Zeta Chapter of Zeta Phi Beta Sorority, Inc. (2002); and, recipient of the Martin Luther King, Jr., Achievement Award, Duke University Chapter of the Student National Medical Association (2001).

William De La Peña, M.D., was confirmed by the United States Senate to the USU Board of Regents on August 1, 2002. Doctor De La Peña is the Medical Director of the De La Peña Eye Clinic, Medical Group, Inc., located in the cities of Montebello, Los Angeles, Huntington Park, Santa Ana, and Van Nuys, California. He has also held the position of Director of the Department of Ophthalmology at the Santa Marta Hospital in Los Angeles, California, since 1984. In addition, Doctor De La Peña is a Professor of Ophthalmology and the Co-Chairman of the Department of Ophthalmology at the University of Costa Rica. He holds medical licensure in California, Louisiana, England, and Mexico; and, he has received over 16 prestigious awards. Doctor De La Peña resides in Montebello, California.

Vinicio E. Madrigal, M.D., was confirmed by the United States Senate to be a member of the USU Board of Regents on August 1, 2002. Doctor Madrigal resides in Kenner, Louisiana, where he is the Director of the Madrigal Family Medicine Center. Doctor Madrigal has served as a Captain in the United States Army Medical Corps (Reserves) since 1984. He received his medical degree from the Universidad Autonoma de Guadalajara in Guadalajara, Mexico. He completed his residency in Surgery at the Flushing Hospital and Medical Center in Flushing, New York; and, in 1984, he completed his residency in Emergency Medicine at Louisiana State University, Charity Hospital, in New Orleans, Louisiana. Doctor Madrigal is licensed to practice in the State of Louisiana.

Linda J. Stierle, MSN, RN, CNAA, was confirmed by the United States Senate to the USU Board of Regents on August 1, 2002. Ms. Stierle has served as the Chief Executive Officer (CEO) of the American Nurses Association (ANA) in Washington, D.C., since April of 2000. As CEO, Ms. Stierle facilitates leadership and management for a staff of 200 and manages a $25 million budget. From April of 1995 through February of 2000, Brigadier General Stierle, USAF, NC (now Retired) served as the Director, Medical Readiness and Nursing Services, at the Bolling Air Force Base. In that position, she was responsible for a $4.5 billion budget and ensured a quality, cost-effective, prevention-based health care continuum for 2.7 million beneficiaries worldwide. She also held the position of Chief Nursing Officer at the Air Mobility Command at the Scott Air Force Base where she supervised and monitored a regional peacetime health care system with assets of $1.4 billion, a $255 million budget, and 7,200-plus medics providing care to over 510,000 beneficiaries. Ms. Stierle is affiliated with the American Organization of Nurse Executives, the American Society of Association Executives, and the Sigma Theta Tau International Honor Society of Nursing.

Ex Officio Members of the Board. In addition to the nine White House appointed members, the Board also has six *ex officio* members. These include: 1) **William Winkenwerder, Jr., M.D., M.B.A.**, the Assistant Secretary of Defense for Health Affairs; 2) **Vice Admiral Richard H. Carmona, M.D., United States Public Health Service**, The Surgeon General of the United States; 3) **Lieutenant General James B. Peake**, the Surgeon General of the United States Army; 4) **Vice Admiral Michael L. Cowan**, the Surgeon General of the United States Navy; 5) **Lieutenant General George P. Taylor, Jr.**, the Surgeon General of the United States Air Force; and, 6) **James A. Zimble, M.D., Vice Admiral, USN (Retired)**, the President of USU (who serves as a non-voting member).

Advisors to the Board. **General Thomas R. Morgan, (Retired)**, the former Assistant Commandant of the Marine Corps, serves as the Military Advisor to the Board. There are eight additional advisors to the Board: 1) the Dean, School of Medicine (SOM); 2) the Dean, Graduate School of Nursing (GSN); 3) the Commander, Wilford Hall Medical Center; 4) the Commanding General, North Atlantic Regional Medical Command and Walter Reed Army Medical Center; 5) the Commander, National Naval Medical Center; 6) the Commander, Malcolm Grow Air Force Medical Center; 7) the Commander, Walter Reed Army Health Care System; and, 8) the Commander, Defense Medical Readiness Training Institute, in San Antonio, Texas.

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While the Regents have always recognized the importance of maintaining a medical curriculum which incorporates the unique challenges created by the use of biologic, chemical and radiologic weapons, we were especially pleased to note that DoD's University of the Health Sciences is now widely recognized as a *first stop* for reliable education, training and research in the medical response to weapons of mass destruction. The entire University effort in support of our Nation's response to the terrorist threat is a testament to the foresight of the Department in maintaining such a unique asset.

- **Everett Alvarez, Jr., J.D., Chairman, USU Board of Regents,** Memorandum to the Secretary of Defense, dated December 4, 2001.

The Board's Significant Role in Academic Affairs. The BOR has continuously played a prominent role in academic affairs at the University. Faculty appointments, promotions and organization, awarding of degrees, curriculum design and implementation, academic requirements for admission and graduation, and related matters vital to the academic well being of the University are all included in the definition of *academic affairs* as provided by DoD Directive 5105.45. The Directive clarifies it is DoD policy that **...consistent with the performance of the DoD mission and with established practices covering academic independence and integrity in the fields of medical and health sciences education, the Department of Defense recognizes the unique role of the USUHS Board of Regents in advising the Secretary of Defense. The Assistant Secretary of Defense for Health Affairs, the USUHS Executive Committee, and the President of the USUHS will be guided by the advice of the USUHS Board of Regents on academic affairs.** The Board's duties include the final review of candidates for the USU President prior to the Secretary of Defense's selection.

University Presidents:

Anthony R. Curreri, M.D., was appointed by **President Nixon** in 1974 and retired in 1976;

The Honorable David Packard, Acting President, served from November 1976 until May 29, 1981;

Jay P. Sanford, M.D., served from May 1981 through 1990; and,

James A. Zimble, M.D., has served since July 1991 to the present.

The BOR also reviews the final selections for the Deans of the SOM and GSN prior to their selection by the USU President:

School of Medicine Deans:

Jay P. Sanford, M.D., was appointed as the first Dean, SOM, in May 1975 and served through 1990;

Harry C. Holloway, M.D., served as the **Deputy Dean** from 1990 through June 1992;

Nancy E. Gary, M.D., was appointed as Dean on June 28, 1992, and served through mid-1995;

Val G. Hemming, M.D., served as Interim Dean from July 2, 1995 through May 3, 1996; and, following a national search, served as Dean from May 3, 1996 through May 19, 2002; and,

Larry W. Laughlin, M.D., Ph.D., was appointed as Dean on May 20, 2002, and continues to serve in that position.

Graduate School of Nursing Deans:

Faye G. Abdellah, Ed.D., Sc.D., RN, FAAN, served as Acting Dean following the establishment of the GSN in 1993; and, following a national search, was selected as Founding Dean, GSN, serving from May 17, 1996 through May 31, 2002; and,

Patricia A. Hinton Walker, Ph.D., RN, FAAN, was appointed as Dean on June 1, 2002, and continues to serve in that position.

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The Board's Mission and Responsibilities. The Board's principal mission is to assure compliance with the University's accrediting authorities. The Regents approve academic titles for military and civilian members of the faculty. Additionally, upon the recommendation of the University's faculty and Deans, the Regents approve the granting of appropriate academic degrees to successful candidates. The BOR recommends the establishment of postdoctoral and postgraduate programs, technological institutes, and programs in continuing medical education for military members of the health professions. The Regents also recommend reciprocal education and research programs with foreign military medical schools. Additionally, the BOR is significantly involved with the University's strategic planning process. On April 4, 1999, the BOR's Charter, which outlines the mission, membership, duties and responsibilities of the BOR, was revised and approved by the Office of the Secretary of Defense (OSD); the most current edition of the BOR's Charter is dated April 4, 2003. In addition, the Bylaws of the Board of Regents were updated and approved on February 6, 2001. (Copies of the BOR Charter and Bylaws are at Appendix A.)

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The Board's Sixth Report to the Secretary of Defense. Since 1997, the USU Board of Regents has submitted an annual report to the Secretary of Defense. This report partially fulfills the Board's obligation to advise the Secretary on the University's operation and often focuses on contributions that USU makes to the Department of Defense. *The 2002 Annual Report, driven by the tragic events of September 11, 2001, summarizes the ways in which USU contributes to homeland security through its intramural and extramural educational programs and describes the University's on-going areas of research relevant to the readiness and force health protection missions of the Department of Defense*. Examples of such research programs described within the report include: Vaccine Development; Traumatic Stress; Wound Therapy; Medical Countermeasures to Irradiation; and, Simulation Technology for Medical Education.

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STRATEGIC PLANNING

A Perpetual Work-In-Progress. The USU Strategic Plan has been continuously evolving to reflect the changing requirements of the Strategic Plan of the Military Health System, which, in turn, is also linked with the Strategic Plans of the University's primary customers, the Surgeons General of the Army, Navy, and Air Force.

All Proposals for Funding Must Tie Into the USU Strategic Plan. Beginning with the USU Strategic Planning Process initiated during 1991, an increasingly systematic approach has been developed for setting the University's priorities and allocating resources based upon relevance to the USU Strategic Plan. *USU activity leaders must show a direct relationship with the current USU Strategic Plan when submitting their written requests for future budgets*. Thus, a formal process has evolved for identifying program needs and for the submission of budget requests. Involvement of USU administration, faculty, and staff at both the formal and informal levels of the decision-making process assists in the equitable allocation of resources throughout the University's wide range of activities. The USU Strategic Plan is also used to develop the University's annual Program Objective Memorandum (POM) submission. The POM request, covering a five to six year timeframe, is submitted to the Department of Defense, through the Office of the Navy Surgeon General, in order to gain the necessary funds for the USU budget as part of the Defense Health Program.

Strategic Planning Initiatives During 2001 and 2002. During 1998, the University updated the basic objectives under each of the goals of its Strategic Plan. Then, during 1999 through 2000, metrics or performance measurements were established and monitored for each objective. Next, to ensure that the USU Strategic Plan was accurately reflecting the evolving requirements of the MHS, on April 25-27, 2001, the senior staff of USU, representatives from the teaching hospitals, the Chair of the BOR, and senior staff from the offices of the Surgeons General met to participate in a three-day strategic planning session. The purpose of the retreat was to review and update the goals and objectives of the USU Strategic Plan so that they appropriately reflect the current requirements of the MHS. Reference materials included the Service Strategic Plans, the USU Strategic Plan, and survey results as they were recorded during the initial group discussions.

Through group interaction, the attendees of the 2001 retreat reviewed USU's internal and external customers and stakeholders. Then, the concerns of those stakeholders were identified, discussed, and weighted during an analysis of the strengths, weaknesses, opportunities, and challenges existing within USU's current environment. Following those discussions, *seven strategic issues were identified: marketing; resources; people; USU as a strong advocate for the MHS direct care mission; education/research/partnerships; strategic thinking; and, communication*. Those seven strategic issues were carefully developed into the seven strategic goals of the USU Strategic Plan with forty-one objectives within the goals. Next, 22 of the most significant objectives were prioritized for initial implementation and action. At the conclusion of the 2001 strategic planning session, the current mission statement was reviewed to identify a shorter, yet accurate reflection of the University's purpose and future; the attendees agreed on the following: ***Learning to Care for Those in Harm's Way.***

Goal Champions were appointed to oversee the development and implementation of the actions required to accomplish the objectives and ultimate realization of each of the seven goals. Finally, the attendees designated Team Leaders to develop action plans for accomplishing one, or more, of the prioritized objectives; and, teams were formed to work on the selected objectives. Throughout 2001 and 2002, the staff, faculty, and students of the University continued their efforts to meet the goals and objectives of the 2001-2002 Strategic Plan. Individual progress reports on each of the seven goals were provided to the USU President who forwarded them to the USU Board of Regents. Over 250 members of the USU Community developed and implemented strategies under the seven goals and forty-one objectives as the University continued to meet its mission - ***Learning to Care for Those in Harm's Way***.

In December of 2002, the senior staff of USU, representatives from the Offices of the Surgeons General and the military teaching hospitals, the Chair of the BOR, and the USU Faculty Senate participated in a retreat to revise and update the 2001-2002 Strategic Plan. The group identified current issues facing the Nation and the University's stakeholders and realigned USU's resources and strategic goals and objectives to better meet the evolving requirements of military medicine. Five new goals and twenty-six objectives were identified. To ensure that relevant objectives were retained from the 2001-2002 Strategic Plan, a working group was selected to integrate significant objectives into the new plan. **James G. Smirniotopoulos, M.D., Professor and Chair, USU SOM Department of Radiology and Radiological Sciences,** volunteered to lead a five-month initiative to formalize the 2003 Strategic Plan. His process included expanded faculty involvement in the development of the strategies. During May of 2003, the USU Board of Regents voted to accept the newly designed USU Strategic Plan. (Copies of the 2001-2002 Strategic Plan and the currently approved USU Strategic Plan are at Appendix B.)

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Progress Toward Achieving the University's Seven Strategic Goals during 2002. As the strategic planning process evolved during 2002, the USU community incorporated the seven strategic goals and 41 objectives into its on-going efforts to meet its mission and respond to the requirements of the MHS. The following are examples of selected issues and accomplishments that responded to the University's seven strategic goals during 2002 (additional information on each of the listed accomplishments is also provided throughout this edition of the USU Journal).

GOAL 1: We will enhance the reputation of USU as a premier health sciences academic institution with a unique global and military perspective.

USU - The Academic Center for Military Medicine. During 2002, the University continued to serve as the Academic Center for Military Medicine for the 2,794 active duty, off-campus USU faculty who are located throughout the MHS. Through its continuing medical education programs and academic centers, the University presented military-relevant conferences and continued its collaborative efforts for the Military Health System. Selected examples follow.

1) ***The Sixteenth Conference on Military Medicine, Enhancing Readiness: Implementing Change in Military Medical Education, Was Held on June 17-20, 2002.*** The 16th Conference on Military Medicine was held on the USU campus with 120 participants. *Conferees were divided into four working groups to focus on four key aspects of military medical education: content; methods of learning; outcomes measurement; and, certification.* The content group built directly upon the foundation laid by participants from the 15th Annual Conference on Military Medicine (held in June of 2001). *The 2002 participants further prioritized and divided the series of objectives, identified during 2001, into the areas of: emerging technologies; emerging threats; ethical considerations; and, changing missions and operations.* The second working group, addressing methods of learning, developed a sample template for determining the best methods of learning given a specific learning task. *The group concluded that the teaching of a given element should occur at multiple levels, to provide important repetition, while also facilitating the addition of more complex elements of knowledge, skills and attitudes over time.* The third group addressed the measurement of outcomes associated with modifications in the process of military medical education. Following an in-depth review of a series of outcome measures, *the group concluded that simulation had the greatest potential for enhancing military medical readiness*. The last group examined the potential for establishing certification of expertise in military medicine. *The participants agreed upon a design that would establish two levels of certification at the operational and expert levels; the expert level would result in a Master of Science Degree in Military Medicine.* The participants determined that USU was the most logical certifying authority. (The significant outcomes of the 16th Conference for Military Medicine are described in greater detail in this section of the Journal, under *Academic Center for the Military Health System*.)

2) ***The Center for the Study of Traumatic Stress of the USU SOM Department of Psychiatry Continued its Ongoing Support for the MHS and the Nation throughout 2002.*** The Center for the Study of Traumatic Stress (CSTS) was established at the University in 1987. Since that time, the CSTS has been continuously recognized and sought out, at both the national and international levels, for its consultative, educational, and research capabilities reference the impact of traumatic stress. Under the leadership of **Robert J. Ursano, M.D., Professor and Chair, USU SOM Department of Psychiatry, and Founding Director, Center for the Study of Traumatic Stress (CSTS),** during 2002, the Center completed the only two empirical studies of *Family Violence and the Army* using an Army data base for one study and a study of troops from Fort Hood (to include their spouses) who were deployed to Bosnia in the other. *Currently, the CSTS is initiating studies on the effects of the traumatic stress resulting from the October 2002 Sniper Acts of Terrorism in the Washington, D.C. area on both the Military Health System and the civilian emergency responder communities*. Also of significance during 2002, *the CSTS was the major planner in the recent DoD/National Institutes of Health (NIH) Consensus Meeting on Early Interventions Following Incidents of Mass Violence* to prepare state and local leaders for the stress resulting from bioterrorism. In addition, Doctor Ursano was invited to write an editorial on *Post-Traumatic Stress Disorder*, for the January 10, 2002 issue of the New England Journal of Medicine. Also during 2002, he was one of three speakers at the *Annual Carter Center Symposium on Mental Health Policy and September 11th* along with **Julie Gerberding, M.D., Director, Centers for Disease Control,** and **Neil Cohen, M.D., of the Commission of Health for New York City**. And, the CSTS collaborated on a publication entitled, *Mental Health Intervention and High-Risk Groups in Disasters*, for World Psychiatry, a widely circulated international journal. (See Section II, *Research Centers and Programs*, for additional contributions of the CSTS during 2002.)

3) ***The USU Casualty Care Research Center Hosted the Sixth International Conference on Tactical Emergency Medical Support on June 7-9, 2002, in Las Vegas, Nevada.*** The USU Casualty Care Research Center (CCRC), established in July of 1989, serves as a repository of resources and information relating to injury control, injury epidemiology, and operational medicine for the Uniformed Services. The location of the CCRC within the multi-Service environment of USU with its emphasis on education and development, scientific studies, research, and on-going clinical and operational practice, is critical to the development and sustainment of the CCRC's ability to maintain its core competency - the capability to provide military-unique, medical expertise and experience required by both uniformed and civilian emergency/health care responders to respond to weapons of mass destruction (WMD)-related and other national security contingencies. During 2002, the CCRC was proud to again sponsor a conference that is consistently well attended and offers significant support to the law enforcement and public safety communities. This year's conference was entitled, *Protecting the Protectors*, and included a Keynote Address by **Lieutenant General Frank Libutti, USMC (Retired), Deputy Commissioner for Counter-Terrorism, New York City Police Department**. Presentations provided by personnel involved directly with the World Trade Center and Pentagon catastrophes were well received, as were presentations from several other clinicians and operators in the fields of Tactical EMS and Special Operations Medicine. The *2002 David Rasumoff Memorial Award for Heroism* was presented to **John Busching of the New York City Police Department Emergency Services Unit** for his selfless acts of bravery following the terrorist attacks at the World Trade Center. (See Section II, *Research Centers and Programs*, for additional information on the significant contributions of the CCRC during 2002.)

4) ***The USU Center for Disaster and Humanitarian Assistance Medicine, USU SOM Department of Military and Emergency Medicine, Hosted a Conference to Increase the Expertise in Laboratory-Based Epidemic Outbreak Surveillance in Panama City, Panama.*** The USU Center for Disaster and Humanitarian Assistance Medicine (CDHAM), established in 1998, has served as a focal point in the MHS for assisting in the critical management of relief efforts in the medical response to weapons of mass destruction, terrorism, natural disasters, and humanitarian assistance contingencies through new developments in the areas of disaster and humanitarian assistance medicine. During 2001, a collaborative study between the CDHAM and the Instituto Conmemorativo Gorgas de Estudios de la Salud (ICGES) was funded by the United States Southern Command (SOUTHCOM) to identify health research and capacity enhancements that would strengthen the local capacity for prevention and response before, during, and following man-made or natural disasters. In accordance with one of the short-term recommendations identified in the initial USU-ICGES Study, an integrative project was executed with the DoD-Global Emerging Infections System (DoD-GEIS) to increase the sub-regional expertise in laboratory-based epidemic outbreak surveillance. A conference, co-sponsored and organized by CDHAM, served as the venue for this effort during 2002. The *Phase II Course/Workshop on the Public Health Laboratory Information System (PHLIS) for Central America and the Dominican Republic* was held in Panama City, Panama, as requested by SOUTHCOM. The conference, hosted by the Gorgas Institute's Public Health Central Reference Laboratory in Panama City, Republic of Panama, included break-out sessions in disaster preparedness medicine and a two-day working meeting for the public health laboratory directors from the six sub-regional countries in Central America, in addition to Panama and the Dominican Republic. The training at the Panama conference was collaboratively planned, organized and implemented by DoD-GEIS, CDHAM, the Pan American Health Organization (PAHO), and the Pan American Health and Education Foundation. Thirty Ministry of Health professionals (epidemiologists, bio-informatics, and laboratory directors) from eight countries (El Salvador, Guatemala, Belize, Nicaragua, Honduras, Costa Rica, the Dominican Republic, and Panama) attended. *The*

main objective of this public health intervention process, which was successfully met, was to ensure the fortification of early warning capabilities for the disaster health information systems located throughout the eight countries, especially between the reference laboratories and the epidemiology departments, to support contingency planning and the management of emergency situations resulting from natural or man-made disasters.

United States - Mexico Pre-Conference Workshop on Medical Preparedness for Man-Made Disasters. Also during 2002, the CDHAM participated in a one-day, pre-conference workshop for community emergency/ first responder civil authorities, border health workers, and military personnel of the United States and Mexican Armed Forces as part of the 60th Annual Conference of the United States - Mexico Border Health Association (USMBHA). The workshop sponsors conducted a bioterrorism exercise simulated to occur along the United States-Mexican Border; the CDHAM provided real-time, hands-on demonstrations using commercial, off-the-shelf telemedicine equipment. (See Section II, *Research Centers and Programs*, for more information on the contributions of CDHAM during 2002.)

5) ***The Armed Forces Radiobiology Research Institute Provides WMD-Related Training to the National Guard Support Teams.*** The Armed Forces Radiobiology Research Institute (AFRRI) was established in 1961 to conduct relevant applied radiobiological research in support of the military medical mission and to support accidental or premeditated events involving nuclear weapons, radiological dispersal devices, and other nuclear/ radiological situations. AFRRI's unique provision of direct support to the Office of the Secretary of Defense and the Joint Chiefs of Staff has proven to be essential since the events of September 11, 2001. For example, a Presidential Directive, following September 11th, established National Guard Civil Support Teams to provide the State Governors with cadres of first responders specifically trained and equipped to deal with terrorist incidents involving chemical, biological, radiological, nuclear or explosive (CBRNE) incidents. In March of 2002, AFRRI's Medical Radiological Advisory Team (MRAT) hosted a two-week conference to train personnel assigned as first responders to the newly established civil support teams. The training included lectures on operational health physics, Federal/DoD regulations, risk analysis, radiological instrumentation, DoD and non-DoD radiological assets, and design characteristics of nuclear power plants, radiological dispersal devices and nuclear weapons. *Learning objectives focused on decision-making during the crucial first 12 hours following a nuclear/radiological event*. The conference was highly successful; as a consequence, the National Guard Bureau of Washington, D.C., has requested that the AFRRI MRAT provide training on an annual basis. (See Section VII for greater detail on the significant contributions of AFRRI during 2002.)

6) ***The USU Graduate School of Nursing Provides Accredited Academic Programs and Responds to the Special Needs of Military Medicine.***

> **I wish to convey my congratulations to you, Dr. Abdellah, and the entire staff of the USU Graduate School of Nursing. Your outstanding performance was recently recognized by the National League for Nursing Accrediting Commission (NLNAC) in its report granting continuing accreditation for an impressive eight additional years. I am particularly gratified by the following statement: *This program provides an outstanding model for preparing advanced practice nurses for military service***

and care of patients in crisis and disaster situations. This program is on the cutting edge of effectively incorporating advanced technology into the curriculum and instruction process to produce a highly competent practitioner... **This is a truly outstanding review of the school, which reflects great credit upon your entire staff and our Military Health System. Congratulations to all for a job exceptionally well done!**

- **The Honorable William Winkenwerder, Jr., M.D., Assistant Secretary of Defense for Health Affairs,** Letter to the USU President, dated January 24, 2002.

In the short time since its establishment in 1993, and with the significant cooperation and support of the Federal Nursing Chiefs, the USU Graduate School of Nursing (GSN) has: *recruited a qualified faculty*; *successfully established curricula for the Family Nurse Practitioner and Nurse Anesthesia options* in its Master of Science in Nursing (MSN) Program; *received official recognition from OSD* on February 26, 1996; developed and implemented an administrative structure that *provides for faculty and student participation in the overall governance of the GSN*; and, initiated an on-going successful six-year collaborative relationship with the Department of Veterans' Affairs (VA); *the 20-month USU/VA Post-Master Certificate Nurse Practitioner Distance Learning Program has been recognized as a model for cost-effective collaboration. At its inception, it was the first program in the Nation to offer a complete nurse practitioner curriculum via distance education; over 70 nurses have graduated from the Program*.

During 2002, the GSN accomplished the following for the MHS:

- Identified accredited clinical practice sites and *completed memoranda of understanding (MOUs) for those relationships with 21 military treatment facilities (MTFs) to include an additional 111 non-DoD, Federal, and civilian clinical sites*;

- Submitted self-studies during 2001-2002 and ***received accreditation/commendation from its professional accrediting entities***:

  - On March 18, 2002, USU was formally notified by the *National League for Nursing Accrediting Commission* that the GSN had received accreditation, with no requests for supplemental reports, for the maximum term of eight years;

  - On May 16, 2002, USU received notification from the *Commission on Collegiate Nursing Education* that the GSN had received accreditation, with no requests for supplemental reports, for the maximum term of ten years;

  - On June 18, 2003, USU received notification from the *Council on Accreditation (COA) of Nurse Anesthesia Educational Programs* that the GSN had been favorably reviewed by the COA Site Team for accreditation; official notification will not take place until the Council on Accreditation meets during October 9-11, 2003;

- Initiated, implemented, and continuously reviewed the outcomes evaluation process for its academic program; *on February 26, 2002, credentialing scoring information released by the American Nurse Credentialing Center's Commission on Certification showed that of the 15 GSN Family Nurse Practitioner graduates who took their certification examinations, all 15 passed with a mean score of 123.3, the highest ever achieved*;

- Since 1993 through 2002, *the GSN has granted Masters of Science in Nursing Degrees to 183 advanced practice nurses,* with over 80 percent of those graduates remaining on active duty;

- In June of 2001, *the Federal Nursing Chiefs requested the establishment of a Clinical Nurse Specialist (CNS) option in the GSN Master of Science in Nursing Program; in January of 2002, the GSN Founding Dean presented the CNS option to the USU Executive Committee and received approval from the three Surgeons General; the CNS option was presented to the Board of Regents on February 27, 2002, and received final approval; the GSN will welcome its Charter Class of eight students in the GSN Perioperative CNS option in Mid-2003*; and,

- To meet an evolving requirement for nursing research relevant to the MHS, the USPHS, and other Federal Health Systems, *in March of 2002, with the support of the Federal Nursing Chiefs, the GSN began the process for the development of a Doctoral Program in Nursing; with the approval of the USU Board of Regents, the enrollment of the Charter Class in the Doctoral Program in Nursing will occur during 2003*. (See Section III for greater detail on the GSN significant contributions during 2002.)

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GOAL 2: We will anticipate changes in society, medicine and the military to meet the academic and unique needs of health care delivery in the MHS.

USU Has World-Wide Recognition as the One Place Where Physicians Are Trained to Respond to Weapons of Mass Destruction.

The combination of DoD's expertise in the field treating casualties from unconventional attacks and the VA infrastructure of medical centers, clinics, satellite broadcast capabilities and affiliations with medical schools will enable U.S. medical professionals to become knowledgeable and medically competent in dealing with future attacks. Content for the training sessions would be based on programs established at the USUHS School of Medicine, the Nation's only Federal medical school. Sometimes referred to as the *West Point for Doctors*, USUHS offers an education in military medicine, preparing graduates to handle *real world scenarios that most doctors are ill-equipped to face*. Students would learn how biochemical and radiological agents act on the human body and how to handle a suspected exposure - from the point of detection through to decontamination and medical countermeasures, according to information from Congressman Buyer's office.

- Washington Fax, *VA bills would offer treatment, research and physician training to fight chemical, biological and radiological attacks*, April 9, 2002.

For over 25 years, USU has been at the forefront of weapons of mass destruction (WMD)-related medical education. The University has successfully prepared its uniformed graduates to provide military-unique health care and expertise in austere conditions and to respond to injuries caused by chemical, biological, radiation, nuclear, and explosive (CBRNE) weapons. Where the average school of medicine (SOM) in the United States offers 13 hours of preventive medicine training, the USU SOM provides 130 contact hours; while the DoD scholarship physicians receive between 50 to 132 hours of medical readiness training, the USU SOM students receive between 784 and 889 hours. A military-unique focus and operational training exercises are interwoven throughout the SOM curriculum; as a result, career-committed USU graduates with their military-unique education and extraordinary retention rates are providing quality care, continuity, and leadership throughout the Uniformed Services. *The Association of American Medical Colleges Reporter has twice featured USU as the one place where physicians are trained for the medical response to WMD in its December issues of 1998 and 2001*. In addition, during 2002, the Medical Staff at the White House, the Congress of the United States, the Chairman of the Joint Chiefs of Staff, the USU Executive Agent (the Navy Surgeon General), and the USU Board of Regents have all validated USU's long-standing expertise in WMD-related training and expertise (see Section II, *MILITARY UNIQUE CURRICULUM*, for further information).

USU Extramural Educational Programs and WMD-Related Training. With military units deployed world-wide, USU leadership was acutely aware of the need for distributed learning to provide medical personnel with up-to-date training. During 2002, in response to multiple requests, USU faculty members developed and delivered training programs for DoD and other Federal agencies, medical institutions, and public safety organizations on the response to terrorism and WMD. *For example, the Administrative Offices of the United States Courts and the United States Marshals Service requested that the USU CCRC design and execute a train-the-trainer program in Chemical/Biological Response.* Today, this program continues to assure that there are well-trained WMD first-responders in every Federal courthouse in the United States. Lessons learned, during this and other efforts, were then incorporated into the CCRC Emergency Medicine Resident Rotation in Operational Medicine Course and the CCRC Military Medical Field Studies Rotation utilized by the MHS. *The operational experiences of the CCRC Medical Support Teams are integrated throughout the USU SOM curriculum as tangible demonstrations of the most current medical science being taught.* Also during 2002, an unsolicited offer from Global e-Medicine and Lippincott, Williams and Wilkins publishers resulted in a collaborative agreement to produce an interactive asynchronous, Internet-based WMD medical training program. The program not only delivers highly relevant information in an innovative learning format, but also facilitates testing, evaluation, and tracking of student performance and provides commanders with an objective measure of personnel readiness.

USU Is Invited to Participate with the OSD/VA Committee on Collaborative Initiatives. Based, in part, upon the unique mission of USU, which includes training uniformed officers for the medical response to WMD, Public Law 107-287, *the Department of Veterans' Affairs (VA) Emergency Preparedness Act of 2002*, directed that the VA model its WMD-related medical training after that found at USU. (During 2001-2002, the USU Vice President for Administration and Management was requested by the Office of the Navy Surgeon General and OSD Legislative Affairs to coordinate a response with the VA on how USU would participate in this training effort; this was successfully completed and incorporated into the initial draft of Public Law 107-287.) *Public Law 107-287 and the expressed intent of the leadership of both the DoD and the VA led to the establishment of an Office of the Secretary of Defense (OSD/VA) Committee to further collaborative initiatives between the two Departments.* USU was invited to participate in the first meeting of the OSD/VA Committee on Collaborative

Initiatives, which was held on January 22, 2003, directly due to the University's on-going successful, six-year collaborative relationship with the VA and its coordinating efforts related to Public Law 107-287. The OSD/VA Committee on Collaborative Initiatives recognized that USU could play an essential role in the implementation of one of the DoD/VA Collaborative Initiatives, *Emergency Preparedness*. The OSD/VA Committee had earlier defined this initiative to include the sharing of vital information and training regarding the diagnosis and treatment of injuries or illness that result from exposure to biological, chemical, or radiation exposure. *The documented WMD-unique training and expertise found at USU, combined with the University's record of successful collaboration with the VA, made USU a logical placeholder for the OSD/VA Initiative on Emergency Preparedness.*

USU Centers and Activities Form a Nucleus During the Planning Phases of the OSD/VA Collaborative Initiative on Emergency Preparedness. Three USU Centers, the Combat Casualty Care Research Center (CCRC); the Center for Disaster and Humanitarian Assistance Medicine (CDHAM); and, the Center for the Study of Traumatic Stress (CSTS) - are serving as a nucleus during the planning stages of the OSD/VA Collaborative Initiative on Emergency Preparedness. Essential expertise is also being provided by the USU Armed Forces Radiobiology Research Institute (AFRRI), the USU Graduate School of Nursing (GSN), the USU SOM Department of Surgery, the USU Office of Continuing Education for Health Professionals (CHE), the USU National Capital Area Medical Simulation Center (SIMCEN), and the USU Patient Simulation Laboratory (PSL). All of these USU Centers and Activities have developed on-going working relationships with their counterparts throughout DoD, VA, other Federal and State entities, and the civilian sector. Efforts for the OSD/VA Collaborative Initiative on Emergency Preparedness are expected to continue throughout 2003. (CCRC, CDHAM, CSTS, AFRRI, the GSN are discussed above, under the previous goal; a description of the SIMCEN follows.)

The National Capital Area Medical Simulation Center.

The National Capital Area Medical Simulation Center (SIMCEN), a collaborative project between USU and the Surgeons General, officially began operations on April 21, 2000 (actual operations began in October of 1999). The SIMCEN, located at the Walter Reed Army Medical Center Annex in Forest Glen, Maryland, uses virtual reality technology, life-like mannequins and *actor patients* to support not only the USU programs but the other military medical centers in the Washington, D.C. area. The USU SIMCEN is unique among the limited simulation centers currently found at civilian medical schools because ***five state-of-the-art components are included under one roof:*** 1) standardized patients (*patient actors*); 2) multi-media, interactive, clinical case presentations on LAN or web-based CD-ROMS; 3) virtual reality software applications; 4) medical simulators (computerized mannequin simulators); and, 5) video-teleconferencing/distance education. The importance of simulation technologies, particularly in training, is that the simulators allow *virtual* training before the actual provision of medical treatment; thus, *students are able to develop clinical skills without the risk of harming a patient*. The SIMCEN also generates cost-avoidance for the MHS through the provision of training and distance learning for SOM and GSN students, graduate medical education, medical readiness, and research.

The recent changes in the military health care environment such as the redistribution of resources, military down-sizing, the shift to outpatient from inpatient care, and privatization issues with TRICARE have all had an impact on medical education. Most of the clinical faculty at the military *teaching hospitals* are requested to accept increased clinical, operational, and administrative responsibilities at their respective clinical sites as well

as multiple academic tasks. This directly impacts the faculty's availability for the instruction of medical students. Since 1999, the SIMCEN has successfully served as the site for the *Introduction to Clinical Medicine I*, a course that teaches medical interviewing skills. In 2000, the Center proved to be essential for USU to support the *Introduction to Clinical Medicine III Course*; and, during 2001-2002, USU continued to focus on current clerkship issues, to include careful analyses of current trends and the SIMCEN's future role in addressing related areas of concern.

During 2002, the SIMCEN also reported the following accomplishments:

- From 2000 through 2002, the SIMCEN has supported 57 educational activities: 17 School of Medicine; 10 Graduate School of Nursing; 23 Graduate Medical Education and Operational Medicine; and, 7 Research Training activities. *These educational activities, in turn, have supported over 9,249 student encounters;*

- In a collaborative partnership with the Walter Reed Army Medical Center, Johns Hopkins University, and the Centers for Disease Control, *the SIMCEN successfully participated in developing an Anthrax Vaccine Immunization Provider Response Program.* The objective of the project was to develop an educational product to guide medical personnel dealing with patient concerns about anthrax immunization;

- The completion of the Internet 2 Initiative with the National Library of Medicine provided USU, during 2002, with its first I-2 workstation. Faculty members in the USU SOM Department of Obstetrics and Gynecology can now access a genetic counseling I-2 multi-media software application;

- The SIMCEN's *beta-testing* collaboration with Surgical Science led to the development of a more user-friendly, robust software application for enhancing/developing laparoscopic procedure skills;

- Collaboration with the University of Maryland resulted in further refinements to the existing needle insertion devices currently used in several medical simulators (this work is linked to enhancing the capabilities of the two needle insertion devices developed at USU, the Pericardiocentesis and Diagnostic Peritoneal Lavage Simulators. These simulators led the American College of Surgeons to approve, for the first time, an Advanced Trauma Life Support Certification of Surgical Skills without the use of animals or cadavers); as a result, *the SIMCEN conducted the Nation's first Advanced Trauma Life Support (ATLS) Course using virtual-reality based simulators, computer-controlled mannequins, and medical models instead of animals*; and,

- An initiative, completed during 2002, was the development of a series of Clinical Case Scenarios developed under contract with the National Board of Medical Examiners (NBME). These cases, along with others developed in other centers, may be used by the NBME as part of Step 2 of the United States Medical Licensing Examination (USMLE) in the near future.

Hand-Held Computers for Students.

By November of 2000, the USU SOM Biomedical Informatics Department was formally established and began the implementation of a Hand-Held Computer Program for the SOM students during 2001. Hand-held computers were provided by the University to the second-year medical school class. These computers provided common paths of communication as School of Medicine (SOM) students entered their rotation cycles. *Surveys have documented that the hand-held computers are a superb educational tool; as such, the provision of these computers was continued in 2002*.

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GOAL 3: We will optimize resources to efficiently and effectively implement USU core capabilities.

Optimization of USU Resources Generated $24.6 Million of Cost Avoidance for the MHS during 2002. Continuous accreditation by 14 accrediting entities has enabled USU to support and generate cost avoidance for the MHS through its multiple educational programs and activities. In addition to 3,451 USU Alumni (3,268 uniformed physician officers and 183 advanced practice nurse officers as of April 2003), the Office of the Secretary of Defense (OSD) has officially recognized the many cost-effective products of USU: (**Accredited Programs:** i.e., Graduate Education; Graduate Medical Education; Continuing Education for Health Professionals; the VA/ DoD Distance Learning Program; and, the Military Training Network; **Centers of Unique Expertise for:** i.e., the Study of Traumatic Stress; Preventive Medicine and Public Health; Casualty Care Research; Disaster and Humanitarian Assistance Medicine; and, Prostate Disease Research; and, **Institutes for:** Armed Forces Radiobiology Research and United States Military Cancer Research). Each year, *the Office of the USU Vice President for Administration and Management coordinates the development, organization, and presentation of inclusive data as required for the USU FACT SHEET on COST-AVOIDANCE Generated for the DoD.*

USU SOM Department Chair Develops the MedPix Medical Image Database System. **James G. Smirniotopoulos, M.D., Professor and Chair, USU SOM Department of Radiology and Radiological Sciences, and Professor of Neurology and Biomedical Informatics,** began an exciting Distance Learning Program by providing monthly Neuroradiology Teleconferencing between USU and the Naval Medical Center in San Diego, California. Working with the USU Office of Technology Transfer, Doctor Smirniotopoulos filed a patent application for the MedPix Medical Image Database System. *The MedPix System is now used by all DoD Radiology Residency Programs and it is the primary teaching file for: the National Naval Medical Center (NNMC); the Walter Reed Army Medical Center (WRAMC); the Tripler Army Medical Center in Honolulu, Hawaii; the Madigan Army Medical Center in Tacoma, Washington; and, USU*. The MedPix Case of the Week is distributed by e-mail to more than 1,700 registered users each week, as well as to USU students across all four years of the School of Medicine.

USU Facilities Division and the Navy Public Works Center Streamline a Process for Obligating Funding for Urgently Required Renovation Projects at USU. For six years, the USU Facilities Division has successfully coordinated with the Navy Public Works Center (PWC) to streamline and maximize the process for obligating funding for urgently required renovation projects throughout the University's infrastructure, especially at the end of the Fiscal Year. Throughout 2002, the USU Vice President for Administration and Management met weekly with the Facilities Division and PWC representatives to: 1) ensure open communication; 2) resolve on-going concerns and issues during the implementation of previously funded projects; and, 3) ensure the preparation of documentation for future projects and the on-going obligation of funding once it has been identified by the USU Vice President for Resource Management. A continuously updated project listing includes the following information: 1) the status of unfunded projects for the current Fiscal Year (currently, there are more than 43 active projects); 2) totals and status of completed documentation submitted to the USU Vice President for Resource Management of projects ready for funding in the current Fiscal Year; 3) totals and current status of projects already funded during the current Fiscal Year; and, 4) the current status of all funded projects from the previous Fiscal Year *(a total of $9,165,975 was obligated during Fiscal Year 2002). The Facilities Division Project Listing serves as an evolving Strategic Plan for the Construction and Renovation Requirements throughout the University.* As projects are completed, new requirements are constantly being identified by the PWC engineers and the USU Facilities Division; once recognized, they are entered into the Project Listing for documentation and eventual funding. As a result, the USU campus is well maintained, as required to support the core competencies of the University, reflecting excellent stewardship on the part of USU leadership. Without this time-proven process, USU would not be in a position to promptly accept funding from OSD or other resources during, or at the end of, the Fiscal Year.

Financial Management Activities.

The USUHS Program Manager for the SmartPay Travel Card participated in our Best Practices Joint Session. He shared the University's tools for success with Agency Program Coordinators from all components of the Department of Defense, military as well as civilian. Because of this leadership and unbiased focus on the responsible use of a convenient, cost-effective and efficient travel management tool, USUHS enjoys an enviable *benchmark* setting reputation ahead of the other Department of Defense Agencies and military departments.

- **Christopher D. Slack, Government Card Executive, Bank of America,** Letter to USU, September 17, 2002.

Due to an aggressive Travel Card Program implemented by the USU Financial Management Division Travel Pay Office, the USU Travel Card Manager, and the USU senior management, the University continued to be recognized by the DoD throughout 2002 for consistently maintaining the lowest travel card delinquency rate in the entire Department. Beginning during Fiscal Year 2000 throughout 2002, under the coordination and leadership of the USU Vice President for Resource Management, USU also continued its partnership with the Navy Bureau of Medicine and Surgery (BUMED) to jointly manage the funding levels of USU's procurement account in order to maximize benefits for both USU and the DHP. Under this agreement, USU is responsible for

executing the University's procurement program and requesting and justifying any long-term capital equipment requirements; BUMED assists in the management of the appropriation process, facilitating the matching of funds with the timing of procurement actions. Also during 2002, there was new emphasis on shared problem-solving of budgetary issues with all USU activity heads.

Grants Management Activities. During 2000, the University established the Grants Management Office and Grants Officer Position to provide administrative management services in support of the University's research community for grant or cooperative agreements; this included providing fiscal management and guidance to grant recipients and investigators. During 2002, the Grants Management Office awarded 16 new grant agreements worth more than $33,000,000; and, it completed over 100 modification actions to existing awards. Currently, there are 125 active USU awarded grant agreements ranging from $5,000 to $29,000,000 managed by the Grants Office. The University has 75 principal investigators conducting research on projects awarded to some 12 grant recipients; and, there are 33 agencies providing funding support for the active grants. The USU Grants Office also provides oversight support for the TriService Nursing Research Program which has more than 70 grants. During 2002, Grants Management implemented the *Electronic Certification System (ECS)* for invoices. Working closely with the Defense Finance Accounting System (DFAS) Offices located in Columbus and Charleston and the Henry M. Jackson Foundation (the grant recipient), *USU Grants Management implemented the ECS, allowing the University certifying officer to review and approve invoices electronically, decreasing payment time and reducing paper*.

Resource Management Information Activities. During 2002, the Resource Management Information (RMI) Office developed, maintained and administered the University's resource management information systems and worked on two major University initiatives: 1) RMI served as the Lead Agent for the Resource Management Information System Search Committee, which was established to find a suitable replacement for the University's principal resource management information system, the College and University Financial System (CUFS). The committee must effectively evaluate the available options for the appropriate system and, following its selection, propose a recommended implementation plan; during 2002, RMI was instrumental in orchestrating the fit/gap analysis of the Defense Finance Accounting System E-Biz System Initiative to ensure its capability to meet the functional requirements of the University; and, 2) RMI also developed a Research Activity Reporting System, a data repository and reporting tool for collating financial, personnel and grant information. *This reporting system provides tracking, analysis and projection modeling capabilities for research activities throughout the University*.

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GOAL 4: We will build a sustaining financial base.

Two Programs Added to the University's Financial Base. Through the support and approval of the USU Executive Committee, permanent funding for the *National Capital Area Medical Simulation Center* and the *USU Military Training Network* has been incorporated into the University's financial base; these activities support health professional education and training throughout the Military Health System. During 2002, the University continued to focus on *resource acquisition* to build a sustaining financial base and on *resource stewardship* to effectively and efficiently support USU's core missions in teaching, research, service, and medical readiness.

USU Research Programs Increase Funding Levels. Growth in research funding at USU has continued to increase over the past years. As reported during August of 2002, extramural research funding granted to the USU researchers totalled some $53.3 million and was almost evenly divided between DoD and nine other Federal Agencies. *Of note, funding from the National Institutes of Health has steadily increased ($4.3 million in 1997; $6.1 million in 1998; $9.0 million in 1999; $12.3 million in 2000; $16.7 million in 2001; and, 19.9 million in 2002).*

During 2002, *the USU SOM Department of Anatomy, Physiology and Genetics (APG) competed successfully for selection as one of the National Heart Lung and Blood Institutes (NHLBI) Proteomic Centers*. This contract represented $3.2 million in Fiscal Year 2002; funding will be continued by NHLBI throughout the next seven years as part of a $12.7 million grant. **Harvey B. Pollard, M.D., Ph.D., Professor and Chair, USU SOM Department of Anatomy, Physiology and Genetics,** is the principal investigator on this contract. The goal of the new Proteomic Center at USU is to identify proteins whose expression and function are significantly increased or decreased in cystic fibrosis. The rationale is that the identification of such proteins will provide critical information for the development of new clinical diagnostics and the discovery of new drugs with which to treat cystic fibrosis. The USU Proteomic Center is one of ten funded centers by NHLBI; other centers include: the Medical College of Wisconsin; Yale University; Boston University; Stanford University; Johns Hopkins University; University of Texas Medical Branch at Galveston; and, the University of Texas Southwestern Medical Center. *In terms of NIH funding, this moves the USU SOM Department of APG into the ranks of the top twenty equivalent Departments in United States Medical Schools*; the Proteomic Center will also serve as a crucial resource for research efforts across the entire University.

The USU Office of Research (REA) provides service primarily to three communities: the University as an institution; USU faculty and student investigators; and, the funding agencies which support research at the University. *During 2002, the Office of Research also provided oversight for nine multi-site, Congressionally-funded research programs with Fiscal Year 2002 funding totalling $59.9 million*: 1) the TriService Nursing Research Program; 2) the Center for Prostate Disease Research; 3) the Defense Brain and Spinal Cord Injury Program; 4) the Coronary Artery Disease Reversal Program; 5) the Clinical Breast Care Program; 6) the Post-Polio Research Program; 7-8) programs for Comprehensive Neuroscience and Hepatitis C; and, 9) the United States Military Cancer Institute. Together, these programs support approximately 150 individual research projects conducted at USU and elsewhere.

USU Extramural Research Programs during 2002 Were Funded at approximately $53.3 million. The USU extramural research programs are supported by Federal agencies such as the National Institutes of Health, the National Science Foundation, the Department of Energy, the United States Army Medical Research and Material Command, and the Office of Navy Research. These investigations explored a variety of scientific areas, mechanisms, transmission, and control of a wide range of infectious diseases; a variety of crucial topics in combat casualty care, operational medicine, and health education and promotion; DoD women's health issues; and, the development of new methods for the diagnosis and treatment of medical problems faced by the United States military and their dependents. In addition, *Intramural Research Programs were funded at $2.7 million; Congressional Programs were funded at $59.9 million; and, Extramural Programs were funded at $53.3 million. Thus, the total of the USU Intramural, Extramural, and Congressional Research Programs was approximately $119.9 million in 2002 with a total of 414 active projects and 533 publications*. During the past year, the USU Office of Research continued to establish baselines for research funding from both extramural and intramural

sources in order to assess progress and growth potentials. In addition, research plans were developed that will allow USU investigators to request funding for multi-investigator grants from the National Institutes of Health. (Further information is provided later in this Section of the Journal, *The Office of Research*.)

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GOAL 5: We will optimize our role in military and federal medical education and research.

USU Research Studies Critical Issues for the Military. *In 2002, the USU intramural program was funded at $2.7 million with 125 intramural faculty projects in place; of those research projects, the majority consisted of militarily relevant protocols, with 52 clinical research awards, and three projects in areas of educational research*. Standard awards by USU for militarily relevant research were typically 90 percent of the applicant's budget request; clinical research projects were usually supported by the University at 90 percent. A wide array of research protocols at USU investigate specific disease threats faced by the Armed Forces during peacetime and deployment. These research projects support the military mission by advancing the understanding of the mechanisms, transmission, and control of a wide range of pernicious and/or common diseases that may be faced by warfighters. These protocols are expected to provide important applications in support of the growing requirements for Homeland Defense and Security. The knowledge gleaned by USU researchers should open new avenues to better control, diagnose, and provide treatment when responding to natural and man-made biological threats, both at home and abroad. *USU studies also support the critical requirements of combat casualty care* by: exploring the pain-control mechanisms that underlie established treatments; providing the groundwork for effective strategies to limit nerve damage and encourage nerve regeneration; and, identifying possible causes of life-threatening complications of the combination of exertion and injury commonly found under combat conditions.

USU Research Is Recognized by Science as One of the Top Ten Scientific Breakthroughs of 2002. During 2002, in the area of military operational medicine, two USU researchers advanced the understanding of, and the ability to manipulate, the physiological mechanisms of stress and immunity, human sleep and seasonal cycles, and the neurological changes underlying short- and long-term memory. **Ignacio Provencio, Ph.D., Assistant Professor, USU SOM Department of APG,** and **Mark D. Rollag, Ph.D., Professor and Vice Chair, USU SOM Department of APG,** identified a *photoreceptive net*, a new light-detecting apparatus in the retina. *Based on their work, recognized by Science as one of the Top Ten Scientific Breakthroughs of 2002,* other scientific laboratories have extended their findings. According to a report on the subject featured in the Harvard Gazette, light is a mixture of different frequencies or colors. By determining the frequency needed to reset the internal clock after it has been knocked out of synch by travel across time zones, scientists could develop a cure for jet lag. *From the perspective of the Armed Forces, not having to acclimate or adjust the clock could ultimately save lives.* These discoveries, as well as other research conducted at USU, may soon enable deployed MHS warfighters to: remain awake longer with fewer detriments to performance; develop better strategies for enhancing and preserving memory and reasoning capabilities under battlefield conditions; assist the DoD and the VA to understand and ultimately prevent and treat neuropsychotic illnesses such as depression and post traumatic stress disorder; and, assist deployed troops and their families to better prepare for, and contend with, the significant stressors associated with military operations.

The USU SOM Interdisciplinary Graduate Program in Emerging Infectious Diseases. In the early 1990's, medical officers aboard the *USS Saratoga* were overwhelmed with visits to sickbay by sailors exhibiting symptoms of viral gastritis. In all, over 70 crew members grew ill, forcing the Commanding Officer to impose a *stand down*, or a halt in the ship's daily operations, to accommodate the loss of crucial manpower. The culprit: salmonella. The bacterial outbreak on the *USS Saratoga* had a significant impact on the Commanding Officer's ability to carry out his mission. With so many of the areas of the World beset with conflict and political instability, parasitic, bacterial, fungal and viral infections pose serious threats to deployed military forces and public health. Recognizing that these serious challenges to military personnel demand a dedicated response, *USU created an innovative interdisciplinary Graduate Education Program in Emerging Infectious Diseases, the first of its kind in the Nation.* In August of 1999, the USU Board of Regents gave its final approval for a Graduate Education Program in Emerging Infectious Diseases (EID); in September of 1999, **Eleanor S. Metcalf, Ph.D., Professor, USU SOM Department of Microbiology and Immunology,** was selected as the Program Director. The concept for the EID Program came from **Val G. Hemming, Professor and Dean Emeritus, USU SOM**. Dean Hemming searched for the correct venue for utilizing the vast infectious disease expertise among the USU faculty; he formed a committee to explore possibilities for not only utilizing the expertise, but to also *build a bridge* between the clinical and basic scientists. The inaugural graduate student class of 10 entered the EID Program in the Fall of 2000; this class took its Qualifying Exams in June of 2002; and, the students are currently conducting their thesis research on a full-time basis. In the Fall of 2001, 10 new students entered the EID Program; these students have now selected their academic track and thesis mentors and are taking advanced courses; they will take their Qualifying Exams in June of 2003. Eleven students entered the EID Program in the Fall of 2002; they are in the process of completing the first year of their Core Curriculum and have begun to take track-specific courses and laboratory rotations. The EID program-unique course, *Models of Emerging Infectious Diseases*, is underway, and both second- and first-year EID students take this course together; a situation designed to promote both academic and informal interactions between the two classes. The graduate students are provided with the essential components for understanding an infectious disease environment, whether during an epidemic or in the general population. The number of applicants increased by 40 percent during the past year; and, the EID Program now has more outstanding applicants than it has stipends.

The EID Program Addresses the Extent to which Basic Science Advances in the Area of Infectious Diseases Can Affect the Current and Future Health of Individuals throughout the MHS. The EID Program addresses issues relevant to the military, in particular, with regard to the current focus on bioterrorism, biowarfare, and biodefense. Many of the organisms being studied by the USU graduate students, faculty, and investigators are considered *Category A or B Potential Bioterrorism Agents* by the Federal government. Among those being researched are critical toxins released by ubiquitous strains of water and foodborne enteric bacteria, such as *E. coli 0157:H7*, which places soldiers and others at risk for serious infections. Scientists hope to define the pathogenic mechanisms that cause infectious disease, its life-threatening kidney dysfunction among children, and its potential use as a biological weapon. *EID investigators are also studying anthrax, dengue virus, HIV, tuberculosis, shigella, and salmonella, among many others, to assess the threat to military troops and to develop military-relevant vaccines.* One of the programs's unique aspects is its faculty. EID faculty are from USU, the Walter Reed Army Institute of Research, the Naval Medical Research Command, and the United States Army Medical Research Institute of Infectious Diseases. As a consequence, the contributions of a wide array of experts give students a unique educational opportunity. One such faculty member is **Doctor James Hughes of the Centers for Disease Control and Prevention in Atlanta, Georgia**. Doctor Hughes is the Director of the National Center for Infectious Diseases and has agreed to serve as an active consultant and as a member of the EID Program's External Review Committee. In keeping with the rationale for its establishment, the USU EID Program is preparing research and

clinical scientists and clinical specialists to provide state-of-the-art health care for military personnel; to work and conduct research in the DoD domestic and overseas research laboratories; and, to provide timely and informed consultation to military Commanding Officers in operational units.

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GOAL 6: We will create a powerful, committed and energized University family.

USU Community Sessions. During 2002, the USU Office of Equal Employment Opportunity (EEO), with the volunteered-support of the USU Special Emphasis Program Managers, continued to present USU Community Sessions to reinforce both the understanding of, and the appreciation for, the cultural diversity that exists throughout the University. *The January 2002 Dr. Martin Luther King Jr. Birthday Celebration: Living the Dream, Let Freedom Ring*, featured **Brigadier General Clara Adams-Ender, USA (Retired)**, who presented the Keynote Address to over 200 faculty, staff, and students from the USU community. On May 28, 2002, 80 members of the USU family met to acknowledge *Asian American/Pacific Islander Month; the 2002 theme was: Challenges that Asian Americans and Others Must Face in the New Millennium*. One of the USU family members, **Colonel Robert R. Eng, MS, USA, Director, Armed Forces Radiobiology Research Institute (AFRRI)**, delivered a moving message describing his vision for the new Millennium from his perspective as an Asian-American; the audience participated during an enthusiastic discussion session following Doctor Eng's presentation. Then, on September 25, 2002, 70 members of the USU community met to recognize *Hispanic Heritage Month; the 2002 theme was: Who Are the Hispanics?* The Keynote Address was presented by **Ms. Yolanda Maldonado-Echevarria, Director of the Hispanic Employment Program, the United States Army Equal Employment Agency**. The presentation was followed by a discussion session with audience participation. Also, during September of 2002, *a Memorial Service was coordinated by the Office of the USU Brigade Chaplain: Honoring the Memory of the Victims of the Terrorist Attacks on September 11, 2001*, to acknowledge the one-year anniversary of the tragic event. Eight hundred members of the USU family either gathered together to share a moment of silence, or remained at their work stations; all demonstrated their respect and sense of loss for those whose lives were ended by the violent event.

Throughout 2002, the Offices of University Recruitment and Diversity (ORD), Student Affairs, EEO, Equal Opportunity (EO), the USU Brigade Commander, and the Civilian Human Resources Directorate collaborated to ensure: 1) the communication of equal opportunity principles throughout the University; 2) the timely sharing of information; and, 3) training in personal development, supervisory skills, and the appreciation of diverse cultures. In addition, the USU Student National Medical Association (SNMA) Chapter, the SNMA Minority Forum, the USU Asian Pacific American Medical Students Association (APAMSA), and the Women in Medicine and Science Group (WIMS), sponsored by ORD, participated in numerous activities and meetings throughout 2002, which also served to enhance the appreciation and understanding of the diverse cultures existing within the USU Community.

USU Orientation Program. Since October of 2000, *the USU Civilian Human Resources Directorate, with the assistance of the USU Brigade Command and the senior leadership at USU, has provided formal sessions of the USU Orientation Program to 256 new, civilian and uniformed members of the University community*: 45 in 2000; 92 during two sessions held in 2001; and, 119 in three sessions held during 2002. The purpose of the

program is to present the philosophy, goals, policies, and leadership principles of the University. Orientation packets with key facts and other selected information are provided for review and future reference. In addition, *the SOM Office of Faculty Affairs maintains a Faculty Handbook on the USU web site*, which serves as a quick guide for the delegation of responsibilities at USU and where to seek information, guidance, or other faculty-related requirements; new faculty members are introduced to the USU web site and encouraged to utilize the information. *The USU Environmental Health and Occupational Safety (EHS) Department briefs the new employees on its initiatives to raise the safety consciousness of the USU researchers and the general community*. The USU Orientation Program continues to successfully promote a positive experience for the new employees and also allows them to meet the senior management of USU. Similar sessions will continue throughout 2003.

Development and Recognition Programs. During 2002, extensive efforts were made to present opportunities for the personal development and recognition of the USU community: 1) *the USU Institutional Animal Care and Use Committee and Laboratory Animal Management (LAM) continued to provide its self-developed Protocol Writing Workshop* for USU investigators who utilize animals in research and education; 2) a renewed emphasis was placed by the Civilian Human Resources (CHR) Directorate on *Individual Development Plans for the civilian workforce*; the initial goal of ten percent participation was achieved during 2002; 3) CHR used 200 training vouchers and 60 on-line training subscriptions for computer-related training at CompUSA and New Horizons throughout 2002; and, *CHR sponsored training for 538 USU employees* through on-site classes; 4) the Department of Family Medicine, in coordination with the SOM Office of Faculty Affairs, offered numerous courses and seminars which strongly supported faculty development throughout the USU community; during 2002, more than *320 attendees from the USU faculty earned over 810 hours of continuing education credit*; 5) to date, the University President has personally presented service awards to 87 USU civilian employees; during 2002, the USU Brigade Office of Military Personnel approved and processed 99 awards for the uniformed members of USU; and, 32 USU Honorary Awards were issued during 2002; 6) under CHR coordination, *100 percent of all USU civilian employees (faculty, staff, and administration) received performance evaluations during 2002*; and, 7) the University continued its sponsorship of both the USU Toastmasters International Club (32 active members) and the USU Mentoring Programs (22 participants).

Provision of Formal and Informal Counseling. The USU Offices of Equal Employment Opportunity (EEO), Equal Opportunity (EO), Recruitment and Diversity (ORD), and Student Affairs (OSA) continued to provide formal and informal counseling throughout 2002. The EO Office did not have to provide formal counseling sessions to the uniformed members of USU during 2002; the EEO Office provided one formal and eight informal counseling sessions to the USU civilian staff during the past year. The Office of OSA conducted counseling sessions for well over 300 USU uniformed students throughout 2002; ORD also continued to provide individual counseling sessions for numerous uniformed students. The success of these counseling sessions is evidenced by the ever-increasing appreciation and respect shared among the individual members of the University. Also, the EO representatives for the USU Brigade provided EO training for all uniformed members of the University during 2002; the training addressed diversity, acceptance of others, management of difficult situations, and the identification of harassment in both the work place and in the academic setting.

Recruitment Strategies. The on-going recruitment strategies implemented or maintained during 2002 by the Office of University Recruitment and Diversity (ORD), in coordination with the Offices of Student Affairs, University Affairs, Graduate Education, and the USU Brigade Commander, document the University's commitment

to increase the matriculation of underrepresented minorities. Some of the major efforts during 2002 included: 1) the USU Liaison Program supported and coordinated 12 USU Alumni and 25 ORD staff visits to universities, colleges, recruitment fairs, Reserve Officer Training Corps (ROTC), and Junior ROTC units throughout 2002; *an estimated 3,000 plus students were introduced to USU at either their respective campuses or at various career fairs they may have attended*; 2) The Office of *ORD responded to over 600 requests for the continued replenishment of more than 4,500 packets of recruitment materials* previously mailed to ROTC units, military bases (installations and hospital commanders, chief enlisted advisors and education offices), pre-medical advisors at the military service academies, and undergraduate institutions nationwide. Additionally, written advertisements in various undergraduate marketing venues were produced; 3) *the on-going coordination of a joint venture to enhance the numbers of qualified applicants for both USU and the Health Professional Scholarship Program (HPSP) recruitment offices* continued throughout 2002; 4) the use of the USU web page for electronic recruitment information increased during 2002; 5) numerous tour groups and visits to USU were conducted whenever requested throughout 2002; and, 6) the USU Post-Baccalaureate Program, established in 1998 as a trial program and modeled after current civilian post-baccalaureate programs, maintains compliance with Federal laws and restrictions and simulates service academy preparatory schools. *The program's goal is to increase representation at USU of economically or educationally disadvantaged students and to include current active duty enlisted and/or uniformed officers*. Three individuals were accepted into the Program during 2001 and two during 2002. To date, the students from this program have been accepted into the SOM and are preforming well academically.

The Helping Hands Project. Since the establishment of the *USU Helping Hands Project* in 1996 through 2002, over 600 USU students (medical and advanced practice nursing) and numerous physicians have provided assistance to the poor and homeless at clinics in three Maryland communities. Those clinics are located at: the KenGar First Baptist Church in Kensington; the Shepherds Table at the First Baptist Church of Silver Spring; and, the Adventist Community Center in Takoma Park. The USU students and participating faculty members of the USU SOM Department of Family Medicine became acquainted with available community resources and learned about the health care needs of their patients. The patients are treated for chronic problems such as hypertension, depression, arthritis, and diabetes. Depending upon the clinic, students see from six to fifteen patients during their three-hour shifts. This on-going Project has provided USU students and faculty the opportunity to work with patients from diverse backgrounds who have unique life experiences.

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GOAL 7: We will effectively communicate the right information to the right people at the right time.

High-Speed Network Link to Internet-2. Through collaboration with the National Library of Medicine, an ultra, high-speed network link to Internet-2 was completed for the main USU campus and the USU Simulation Center. This network link has enhanced the University's teaching programs through the use of virtual reality methodologies and distance learning; for example, faculty members in the USU SOM Department of Obstetrics and Gynecology can now access a genetic counseling I-2 multi-media software application.

External and Internal Communication. During 2002, the on-going efforts of the Center for Informatics in Medicine, the Office of University Affairs, the Civilian Human Resources Directorate, the Office of Research Administration, the publication of the USUHS Journal and the USU Quarterly Magazine, and the USU Information Services Management Center all combined to: facilitate awareness of the current activities of the University; provide electronic programs to enhance computer orientation courses, existing educational programs, and new educational services; and, create web pages for general information (including instructions, procedures, and evaluation processes) for the entire USU community. The sharing of the *Editions of the USU Journal* with the USU internal and external communities during the past three years has resulted in letters of acknowledgement and accolades from USU Deans and Department Chairs, the USU Board of Regents, the Secretary of State, the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, the Chief of Naval Operations, the Commandant of the Marine Corps, the Army Chief of Staff, the Secretary of the Air Force, Members of the United States Senate and House of Representatives, military associations, the American Medical Association, and many others.

USU Comprehensive Annual Faculty Listing Report. As part of an on-going process for sharing information, the USU Vice President for Administration coordinates and publishes a comprehensive annual faculty listing report. During each year, all full-time faculty members *(329 full-time faculty during 2002 - 209 civilians; 120 uniformed officers)* are counted in the totals of the Department where each holds his or her primary faculty appointment. Although it only captures a point in time, the annual report documents the unique and wide-reaching, collaborative relationships of the University with its off-campus faculty *(3,989 off-campus faculty during 2002 - 1,195 civilians; 2,794 uniformed officers)*. Since the initial report completed in 1998, recommendations from the USU community have been incorporated so that the following information is included within the annual report: 1) totals of full-time faculty (civilian and uniformed faculty members are identified by name); 2) the tabulation of academic titles, in accordance with USU Instruction 1100; 3) totals of part-time faculty (identified by name); 4) totals of off-campus faculty (civilian and uniformed off-campus faculty are identified by academic title); and, 5) totals of civilian faculty with tenure or with tenure pending (identified by name). All of this information is broken out by Department or Activity; it is then combined and totalled for the School of Medicine or the Graduate School of Nursing; then, all totals are combined to form an inclusive summary for the University. A copy of the 2002 annual faculty listing report was provided on November 15, 2002, to the USU President, Deans, Department Chairs, Activity Heads, the USU Board of Regents (to include the Assistant Secretary of Defense for Health Affairs), the USU Executive Committee (the Surgeons General and their staffs), and the Office of the Chancellor of Education and Professional Development in the Office of the Secretary of Defense.

Expanded Library Services to the Military Services. The USU Learning Resources Center (LRC), in collaboration with the USU Executive Committee and the Services, continued its successful efforts to extend its electronic library services (e.g., 220 full-text books and over 5,475 journals) to the Service libraries and DoD health professionals; these services have been available since 2000. *In 2002, the LRC assisted 6,885 registered patrons, who accessed 4,000,000 pages from the LRC Remote Services.* During 2002, support services for the Walter Reed Army Libraries increased by 20 percent and the Army Medical Research and Materiel Command at Fort Detrick was added to the list of DoD research facilities being provided electronic access to the USU LRC. *ARIEL*, an electronic interlibrary loan delivery system, was added to the LRC available resources during August of 2002; ARIEL provides Internet-based delivery of borrowed items and reduces the waiting time from two weeks to 48 hours (items can be delivered to the patron's desktop in PDF format). In addition, *LoansomeDoc*, a service that allows users to search the National Library of Medicine's *PubMed Database* and order items directly on-line, was initiated in September of 2002.

Communication Services of the USU Information Services Management Center. The USU Information Services Management Center (UIS) continued throughout 2002 to implement projects for improving both technology and customer service at USU. **Customer Support -** *UIS provided support and coordination services for: 3,000 information systems users accessing e-mail, remote dial-in accounts, Internet Protocol connections, satellite, and software applications; 1,500 dial-in users; 2,750 telephone and fax lines; and, 1,200 Voicemail Systems*. As the owner of a Class B Internet License, UIS acts as the Internet Service Provider and supports areas on and off the USU campus, such as the National Naval Medical Center and 12 off-site DoD locations. **Desktop Computers -** In accordance with guidance from Health Affairs, a plan to lease desktop computers by the University has been implemented since 1998 through 2002. *During 2002, 916 desktop computers were in a three-year technology refreshment cycle*. The scheduled addition and cycled replacement of 342 leased computers took place in 2002. **Helpdesk -** The selection of a single set of desktop tools greatly simplified user support and improved helpdesk response from 1999 through 2002. *Over 6,839 customer requests were received in 2002*. The total calls assigned and resolved by the Helpdesk in 2002 totaled 3,422; of this number, 145 tickets were for dial-up requests and 170 tickets were in response to computer viruses; the remaining requests were assigned to other branches within UIS for action. Other projects during 2002 included: data base maintenance; test and deployment of new software products; deployment and replacement of two rounds of leased machines; and, the management of UIS supported products. The helpdesk staff continued to participate in on-campus training on standard operating procedures and in off-site training to acquire professional certification, which contributed to a reduction in calls and an increase in user productivity.

9th Faculty Senate Research Day and Graduate Student Colloquium - 2002. The 9th Annual Faculty Senate Research Day and Graduate Student Colloquium were held at USU on May 15-16, 2002. This year's theme was *The Post Genomic Era: Implications for Research, Education, and Public Health*. The two-day event brought approximately 250 individuals to the USU campus, including researchers from affiliates such as the National Naval Medical Center, the Walter Reed Army Medical Center, the Armed Forces Institute of Pathology, the Washington Hospital Center, and the Walter Reed Army Institute of Research. This year's events included internationally known keynote speakers as well as presentations of on-going research by USU faculty, USU graduate students, and investigators from the above listed affiliated institutions. This year's three symposia, workshop and poster presenting sessions addressed: career development strategies for graduate students; emerging issues in proteomics and bioinformatics; technology transfer; and, ethical issues in research with human subjects. A special panel on bioterrorism featured **The Honorable Saxby Chambliss, former member of the United States House of Representatives from Georgia**; **United States Ambassador, The Honorable Donald A. Mahley**; **Debra Krikorian, Ph.D., United States Army Medical Research and Materiel Command**; and, faculty from both USU and AFRRI. During the Research Day Dinner on May 15, 2002, two awards were presented to those faculty members who were determined to have made significant contributions to research over the past three years. The selection process included a review of nominations from the USU faculty by a subset of the USU Merit Review Committee, which selected the two recipients: **Ignacio Provencio, Ph.D., Assistant Professor, USU SOM Department of Anatomy, Physiology and Genetics (APG)**, received the *Henry Wu Basic Science Research Award*; and, **Andre Dubois, M.D., Ph.D., Research Professor, USU SOM Department of Medicine**, received the *James Leonard Clinical Science Research Award*.

The Graduate Student Colloquium was established in 1980 to promote scholarly interchange between graduate students and the academic community at USU and to recognize the research achievements of USU graduate students. ***The 2002 Graduate Student Colloquium*** featured a career workshop organized by the students, platform and poster presentations given by students, and the *John W. Bullard Lecture*. The Career Development

Workshop consisted of seven presentations by accomplished individuals working in various aspects of the scientific enterprise. These ranged from medical school faculty, to scientific review administrators, to patent lawyers involved with biotechnology, to a study director at the National Academy of Science. Nine scientific poster presentations by graduate students were followed by a lunch, which included the Bullard Lecturer and six oral presentations by students. *The 2002 Bullard Lecture* was presented by **Marc K. Jenkins, Ph.D., Professor, Department of Microbiology, University of Minnesota,** on *Tracking the Generation of Memory CD4T Cells in vivo*. Awards were given for the best poster and platform presentation.

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RELEVANCE - MISSION ACCOMPLISHMENT

USU Graduates Provide Continuity and Leadership and Ensure Medical Readiness.

The School of Medicine. ***Continuity and leadership ensure both readiness and the preservation of lessons learned during combat and casualty care***; these were significant factors that motivated the Congress of the United States and the Executive Office of the President to recommend and approve the establishment of USU and the Health Professions Scholarship Program (HPSP) as complementary sources of accession for uniformed physicians. In 1972, Public Law 92-426, *the Uniformed Services Health Professions Revitalization Act*, established the HPSP to be a flexible source for the quantity of physicians required by the Armed Forces; and, ***USU was established to provide a cadre of military medical officers who would serve a career as active duty physicians and effectively ensure continuity and leadership for the MHS.***

Continuity.

The *extraordinary retention* of these military officers *ensures continuity* for the MHS and the safeguarding of lessons learned during combat and casualty care... Furthermore, a significant number of USU graduates who have completed their residency training hold *leadership* or *operational* positions throughout the MHS... We place great emphasis on the retention of quality physicians in the military.

- **Vice Admiral Michael L. Cowan, Surgeon General of the Navy,** Testimony before the House Armed Services Committee, Subcommittee on Military Personnel, April 10, 2002.

With the graduation of the 23rd School of Medicine (SOM) Class in May of 2002, 3,268 uniformed officers have been granted Medical Degrees. ***As of April 2003, the 2,526 USU physicians on active duty in the Armed Forces represent 21.2 percent (one out of every five) of the 11,907 physicians on active duty in the Army*** (*Total Army Physicians* - 4,189; *USU Physicians* - 1,016)***, Navy*** (*Total Navy Physicians* - 4,023; *USU Physicians* - 748)***, and Air Force*** (*Total Air Force Physicians* - 3,695; *USU Physicians* - 762); the congressional founders had hoped for a representation of ten percent. (In addition, there are 94 USU SOM alumni on active duty in the United States Public Health Service; therefore, a total of 2,620 USU SOM graduates remain on active duty.)

Leadership. The overall retention for USU graduates from the Class of 1980 to the present (23 SOM classes) is 83.6 percent; the Congress had originally envisioned retention rates close to 70 percent. In accordance with this extraordinary retention, recent reviews have documented that one, out of every two SOM alumni who have completed their residency training, is in a significant operational or leadership position in the MHS.

Two In-Depth Studies Reflect that USU SOM Graduates Are the Most Cost-Effective Accession Source for Filling Senior Positions in the MHS and USU SOM Alumni Are Well Prepared for, and Succeed in, Operational and Leadership Positions. During 2003, the Center for Navy Analysis (CNA), conducted an in-depth study entitled, *Life-Cycle Costs of Selected Uniformed Health Professions*, part of which included the development of a Cost Model Methodology. In Phase II of the study, CNA used the cost and historical retention patterns from Phase I, in addition to current constraints and business practices. CNA, in its summary report of Phase II, page one, stated that ***USU is the most cost-effective accession source for filling 0-6 grade physician requirements***. This directly relates to the September 1995 GAO Report, *Military Physicians - DoD's Medical School and Scholarship Program*, page 43, which states that ***43 out of 44 commanders of major military medical units perceived that physicians from the University have a greater overall understanding of the military, greater commitment to the military, better preparation for operational assignments, and better preparation for leadership roles***. Without a doubt, the continuity and leadership provided by the USU SOM alumni ensure readiness and the preservation of lessons learned for the MHS.

Medical Readiness.

Recent tragic events and the current Global War on Terrorism clearly show the benefits of preparedness and training. It is gratifying to know USU is leading the way in preparing military health care professionals to meet current and future challenges. Please accept my appreciation and pass on a hearty, "Well Done!" to your colleagues and the students for their dedicated efforts in support of our men and women in uniform.

- **General Richard B. Myers, Chairman of the Joint Chiefs of Staff,** Letter to USU, March 29, 2002.

USU is the Nation's only University dedicated to ensure readiness for the MHS. In the December issues of both 1998 and 2001, the Association of American Medical Colleges (AAMC) Reporter recognized USU as the ***one place where the physicians of tomorrow do get thorough preparation to deal with the medical aspects of chemical and biological terrorism. USU students learn how nuclear, biological, and chemical agents act on the human body and what to do in the event of a suspected exposure - from detection to decontamination and medical countermeasures.*** The MHS must provide quality health care during humanitarian, civic assistance, or operational contingencies. This critical medical response requires that physicians in the MHS be provided a solid background in tropical medicine and hygiene, parasitology, and the use of epidemiologic methods and preventive medicine. USU students are provided with approximately 130 contact hours of study in these areas, compared to about 13 hours found in the typical civilian medical school curriculum. In addition, the multi-Service environment of USU facilitates the students' understanding of the cultures and vocabularies of the United States Army, Navy, Air Force, and Public Health Service, which ensures two of the essential components of readiness: *flexibility and continuity during joint service operational contingencies.* And, the USU SOM has implemented innovative efforts to meet the evolving requirements of medical readiness: the newly established National Capital Area Medical Simulation Center and the USU Patient Simulation Laboratory; the SOM Department of Biomedical Informatics; and, the newly established interdisciplinary graduate program, Emerging Infectious Diseases (see Section II for a detailed description of these SOM programs). As mentioned above, in December of 2001,

following the terrorist attacks of September 11th, the AAMC Reporter featured USU and reconfirmed the findings reported in its earlier article: ***Large-scale terrorist attacks and biological intimidation campaigns on American soil have sent shockwaves of change rippling through every layer of society. Each unexpected new challenge requires an adjustment in preconceptions and contains a practical lesson for the future. But at USUHS, it is learning as usual. Students have been explicitly trained to provide a medical response to terrorism scenarios like the ones that are playing out in the United States and abroad today.***

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The Graduate School of Nursing.

The Uniformed Services University of the Health Sciences Graduate School of Nursing (GSN) has met and exceeds all criteria for continuing education. This program provides an outstanding model for preparing advanced practice nurses for military service and care of patients in crises and disaster situations. This program is on the cutting edge of effectively incorporating advanced technology into the curriculum and instruction process to produce a highly competent practitioner. This program can serve as a model to advance nursing education, practice and scholarship as nursing moves into care of the global community.

- Final Report of the National League for Nursing Accrediting Commission dated March 18, 2002, granting accreditation to the GSN for a maximum term of eight years.

In 1993, Congress directed the initiation of a demonstration program for the preparation of family nurse practitioners to meet the needs of the Uniformed Services. In the short time since its establishment, the USU Graduate School of Nursing (GSN) has:1) recruited a qualified faculty; 2) successfully established curricula for the Family Nurse Practitioner and Nurse Anesthesia options in its Master of Science in Nursing Program; 3) received formal approval on February 26, 1996, from Health Affairs, Office of the Secretary of Defense; 4) identified accredited clinical practice sites and completed memoranda of understanding for those relationships with 21 military treatment facilities (MTFs) and an additional 111 non-DoD, Federal, and civilian clinical sites; 5) developed and implemented an administrative structure that provides for faculty and student participation in the overall governance of the GSN; 6) submitted self-studies to its three accrediting entities; received notification of accreditation with commendation during 2002 from the National League for Nursing Accrediting Commission (NLNAC) and the Commission on Collegiate Nursing Education (CCNE) with maximum terms of accreditation, eight and ten years respectively; and, the GSN was notified, in June of 2003, by the Site Team for the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs that a positive report had been submitted with official notification expected from the COA in October of 2003; 7) initiated, implemented, and continuously reviewed the outcomes evaluation process for both academic programs; on February 26, 2002, credentialing scoring information released by the American Nurse Credentialing Center's Commission on Certification showed that of the 15 GSN Family Nurse Practitioner graduates who took their certification examination, all 15 passed with a mean score of 123.3, the highest ever achieved; and, 8) as of April 2003, awarded 183 Masters of Science

in Nursing Degrees to advanced practice nurse graduates through its MSN Program options in Nurse Practitioner and Certified Registered Nurse Anesthesia with over 80 percent remaining on active duty; all GSN graduates have passed their certification examinations with greater than a 97 percent pass rate on the first attempt. The GSN is the first advanced nursing school in the United States to serve the Uniformed Services with a clear mission of ***Learning to Care for Those in Harm's Way***.

Advanced Degrees Earned Through Distance Learning. The GSN has enjoyed an on-going, successful six-year collaborative relationship with the VA. The 20-month VA/DoD Distance Learning Program has been recognized as a model for cost-effective collaboration. *At its inception, it was the first program in the Nation to offer a complete nurse practitioner curriculum via distance education.* The collaborative efforts of the GSN with the Department of Veterans Affairs (VA) in the area of distance learning successfully demonstrated a cost-effective form of advanced education where nursing students received advanced training in critically-required specialty areas while maintaining their current positions at the VA medical centers. Twenty-six students, through a *virtual commencement exercise*, graduated from the VA/DoD Distance Learning Program on May 18, 1999; an additional student completed requirements during August of 1999, bringing the total to 27 graduates from the first class. The virtual graduation was broadcast from USU and linked with eight VA Medical Centers located across the United States. All graduates were eligible to sit for the American Nurses Association Credentialing Examination for Adult Nurse Practitioners. This graduation marked the first virtual advanced-level graduation for either the VA or DoD. Outcome data from present students, alumni, and employers reflect extremely high levels of satisfaction with the distance learning program. A second class, with 33 students located in ten VA Medical Centers, graduated on May 15, 2001. And, a third class of ten students graduated on May 13, 2003. *To date, 70 individuals have successfully graduated from this exceptional distance learning program.*

Lessons Learned Are Published. The experience gained by both the GSN and the VA will allow future projects in distance learning to benefit from the lessons learned and the technologies tested during the twenty-month VA/DoD Distance Learning Program. To ensure that other Federal entities could easily access the lessons learned during this Program, a joint report was issued by the GSN and the VA Nursing Strategic Healthcare Group in November of 2000. The report, *The VA/DoD Post-Master Adult Nurse Practitioner Distance Learning Program - From Concept to Graduation*, documents, in chronological order, the formulation of the partnership between the DoD and the VA, the conceptual stages and developmental processes, learning strategies, course evolvement, assessment methodologies, clinical experiences, and the transmission effectiveness for the entire program. In short, the report provides an inclusive road map for implementing a distance learning program - from concept to the matriculation of the second class. Future initiatives between the GSN and the VA are being considered with an emphasis on improving nursing practice and health care for veterans. (See Section III for a detailed description of this GSN program.)

A New Doctoral Degree Program in Nursing and a Clinical Nurse Specialist Option Are Established. To meet the evolving requirement for nursing research relevant to the MHS, the USPHS, and other Federal Health Systems, in March of 2002, with the approval of the Federal Nursing Chiefs, the GSN began the process for the development of a *Doctoral Program in Nursing*. The new Program will prepare nurses to be uniquely qualified as leaders in research, education, and clinical practice. The GSN Doctoral Program was presented to the USU

Board of Regents (BOR) and received formal approval on October 24, 2002. The Doctoral Program in Nursing will be open to DoD nurses (active duty, reserve, and civilian) and to nurses from other Federal agencies who are nominated and supported by their Service or Agency. The new program will accommodate both full-time and part-time students and will incorporate aspects of both distance and alternative learning. *The first doctoral students will be welcomed by the GSN in the Fall of 2003.* In addition, the Federal Nursing Chiefs identified a need for a *Clinical Nurse Specialist (CNS) option in the GSN MSN Degree Program* in June of 2001. The new program option was presented to, and favorably received by, the USU Executive Committee in January of 2002; next, it was presented to the USU BOR and received formal approval on February 27, 2002. The perioperative specialty content evolved from a comprehensive process of blending field research, program goals, and clinical expert interviews with the Federal Nursing Chiefs. *Eight uniformed officers will join the USU GSN students when the CNS option in the GSN MSN Degree Program is launched in June of 2003.*

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In Addition to the SOM and GSN Alumi and Achievements, Five Other OSD-Recognized, Significant Areas of Support and Products Are Provided by USU for the MHS.

Clinical Support for the Military Health System. During 2002, during their course of teaching, the USU faculty provided over 141,842 hours of clinical care at the Army, Navy, and Air Force Medical Treatment Facilities (MTFs) in the National Capital Area. Without this significant provision of support during 2002, the MTFs would have had to augment their medical staffs by 141,842 work hours in order to maintain the level of patient care within the direct care system of the MHS.

The USU SOM Graduate Education Programs. As of April 2003, the SOM Graduate Degree Programs have conferred a total of 727 Basic Science Degrees: 229 Doctors of Philosophy; 11 Doctors of Public Health; 69 Masters of Science; 386 Masters of Public Health; 4 Masters of Science in Public Health; 25 Masters of Tropical Medicine and Hygiene; and, 3 Masters of Military Medical History. During 2002, 35 uniformed officers received advanced degrees (30 Masters Degrees and 5 Doctoral Degrees). The USU SOM Graduate Education programs are responsive to the special needs of the Military Health System; a detailed discussion on the superb responsiveness of the USU Graduate Education Programs is provided at Section IV of the Journal.

The USU SOM Office of Graduate Medical Education. The USU Office of Graduate Medical Education (GME) provides essential support for the MHS in that it serves as the Administrative Office and provides oversight for the National Capital Consortium (NCC). The USU SOM Office of GME collects and evaluates data on DoD GME programs to ensure academic and scientific excellence; and, it provides consultation and advice for the Dean of the SOM, the President of USU, and others throughout the MHS on military-unique medical curricula. During 2002, all of the GME programs in the National Capital Area came under the cost-effective sponsorship of the NCC, bringing the current total to 65 programs.

The USU Office of Continuing Education for Health Professionals and the USU Military Training Network. The USU Office of Continuing Education for Health Professionals (CHE), to include the Military Training Network (MTN), provides significant, cost-effective and relevant support for the MHS by facilitating the continued professional growth of health care professionals throughout the MHS. In carrying out its principal responsibilities during 2002, CHE sponsored continuing medical education for 719 activities with an attendance of 5,208 physicians; provided continuing nursing education for 62 activities with an attendance of 1,378 nurses; and, approved Category II (non-ACHE) continuing education credit for 25 programs for 480 members of the American College of Healthcare Executives, and one continuing education activity for 4 psychologists. Also, the DoD sites affiliated with the USU MTN are approved to conduct self-sustained resuscitative and trauma medicine training. This continues to prove cost-effective for the MHS because it eliminates the need to pay premium training costs for civilian resuscitative and trauma medicine programs. During 2002, 223,735 DoD personnel were trained through the USU MTN.

USU Serves as the Academic Center for 2,794 Active-Duty Faculty in the MHS. USU serves as the Academic Center for academic and research activities for 2,794 active-duty, off-campus USU faculty located throughout the MHS. USU on-site faculty have sponsored, hosted, or participated in the major conferences held by the MHS during 2002; in addition, military relevant consultation is continuously provided to the MHS and other Federal agencies by the internationally recognized experts within the University's multiple centers, departments, programs, and institutes. As addressed in this Section of the Journal, *the military-relevant research conducted at USU, in collaboration with many hundreds of off-campus USU faculty assigned throughout the MHS, addresses critical issues for the Armed Forces.* The knowledge documented by the on-site and off-site USU faculty through their collaborative research is opening new avenues to: enhance the quality of clinical care; and, better control, diagnose, protect, and provide treatment for millions of MHS beneficiaries.

All of these products and services are resourced as part of the operating budget of the University and are discussed throughout this report.

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ACCREDITATION

I want to extend my congratulations to you, the leadership and the faculty at the Uniformed Services University for your exemplary performance in receiving a ten-year accreditation with commendation from the Middle States Commission on Higher Education!

This is a notable achievement, and it reflects a successful, long-term commitment to the highest levels of professional medical education for this Nation's Military Health System. The quality of your graduates continues to serve as a testament to the quality of the teaching that was endorsed by the Middle States Commission. You and your staff continue to make significant contributions to our Nation's military readiness and our national medical preparedness.

- **The Honorable William Winkenwerder, Jr., M.D., Assistant Secretary of Defense, Health Affairs,** Letter to the USU President dated July 22, 2003.

The Middle States Association of Colleges and Schools. The University is accredited by the Middle States Association of Colleges and Schools Commission on Higher Education (MSA/CHE). The MSA/CHE is an institutional accrediting agency recognized by the United States Secretary of Education and the Commission on Recognition of Postsecondary Accreditation. Following its establishment in 1972, USU received *candidate for accreditation status* from the MSA/CHE in 1977, and has retained accreditation since 1984. In order to maintain the accreditation of the educational programs within the School of Medicine and the Graduate School of Nursing, the University must receive accreditation from the MSA/CHE. Accreditation by the MSA/CHE is an expression of confidence in an institution's mission and goals, its performance, and its resources. Based upon the results of an institutional self-study and an evaluation by a team of peers and colleagues assigned by the MSA/CHE, accreditation attests to the judgment of the MSA/CHE that an institution has met the following criteria: it is guided by well-defined and appropriate goals; it has established conditions and procedures under which its goals can be realized; it is accomplishing its goals substantially; and, it meets the standards of the MSA/CHE.

In 1993, the University underwent a successful institutional self-study and a reaccreditation site visit by the MSA/CHE. As requested by the MSA/CHE, a Periodic Report was submitted by USU to the MSA/CHE in June of 1998. In July of 1998, the MSA/CHE reported that the USU Periodic Report was... ***to be applauded for its serious and candid review of the areas of concerns pointed out by the Middle States Evaluation Team in 1993***. The MSA/CHE correspondence further emphasized that... ***it is clear that USUHS is responding to its internal and external environments and preparing aggressively for the future.*** On December 1, 1998, the USU President was notified by the MSA/CHE that the University had been granted accreditation, with no follow-up required.

The next evaluation visit by the MSA/CHE was scheduled for the Spring of 2003. The MSA/CHE does not prescribe a particular institutional planning process. However, it does strongly suggest that planning be conducted within the context of the institution's goals, priorities, resources, and commitments. This means, at a minimum, that the institution has: carried out a thorough examination of its mission; reviewed its internal and external environments to form preliminary estimates of its strengths, weaknesses, opportunities, and threats;

developed and implemented a formal system for setting priorities and for developing budgets, strategies, activities, and timetables; and, devised an evaluation procedure for systematically reviewing self-study planning, the self-study process, and self-study findings and recommendations. A steering committee must be established that is responsible for providing leadership to the entire self-study process, to include: determining the key issues for the self-study; preparing the design; developing charges to the subcommittees and coordinating their work on the various issues studied; ensuring that the timetable is implemented as planned; arranging for one or more campus hearings to review drafts of the self-study; and, overseeing the completion of the final self-study report. In accordance with the above, the USU President established a steering committee to draft a self-study design proposal; the design proposal was submitted to the MSA/CHE staff liaison in April of 2001 for review and approval. The MSA/CHE liaison visited the USU campus on May 18, 2001, and met with members of the USU administration, the Board of Regents, and students and faculty; the outcome of the visit was quite positive, with only one recommendation for USU on the inclusion of information on how outcomes assessment will be integrated into the self-study document. The self-study design was revised to include the MSA/CHE liaison's recommendation and received approval in August of 2001. During September of 2001, the University established fifteen self-study subcommittees. Draft reports were scheduled for submission to the steering committee beginning in early February of 2002; subcommittee final reports were due to the steering committee in May of 2002. The steering committee reviewed and merged the subcommittee reports into one comprehensive report for the MSA/CHE. A draft of the comprehensive report was circulated to the University for review and comment. Revisions were incorporated, as appropriate, into the draft document by the steering committee prior to the final review by the Office of the USU President; copies were then submitted to the MSA/CHE. Submission of all required documents to the MSA/CHE was completed during February of 2003.

A Middle States Evaluation Team Visits the University. Following the receipt and review of the USU Self-Study, an Evaluation Team representing the Middle States Commission on Higher Education visited the USU campus on March 30 - April 2, 2003. The Team indicated a positive review of the University upon the conclusion of their visit. On July 1, 2003, the University President was notified by the Middle States Commission on Higher Education that USU had received accreditation with commendation with the next self-study to be conducted during 2012-2013.

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Fourteen Accrediting Entities Ensure that Educational Standards Are Met by the University. In addition to the MSA/CHE accreditation, the following thirteen professional organizations continue to authorize accreditation for the University's schools and programs:

SOM: 1) the Liaison Committee on Medical Education (LCME); 2) the Accreditation Council for Graduate Medical Education (ACGME); 3) the American Psychological Association Committee on Accreditation; 4) the Council on Education for Public Health;

GSN: (5) the National League for Nursing Accrediting Commission (NLNAC); 6) the Council on Accreditation of Nurse Anesthesia Programs (COA); 7) the American Association of Colleges of Nursing Commission on Collegiate Nursing Education (AACN/CCNE);

University: 8) the Nuclear Regulatory Commission (NRC); 9) the American Association for the Accreditation of Laboratory Animal Care (AAALAC); 10) the Accreditation Council for Continuing Medical Education (ACCME); 11) the American Nurses Credentialing Center's Commission on Accreditation; 12) the American College of Healthcare Executives (ACHE); and, 13) the State of Maryland Department of Health and Mental Hygiene Board of Social Work Examiners.

Individual discussions on the accreditation of the School of Medicine, the Graduate School of Nursing, the Graduate Education Programs, the Graduate Medical Education Program, and the Office of Continuing Education for Health Professionals are provided at sections II, III, IV, V, and VI of this report.

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OPTIMIZATION - OSD RECOGNITION OF USU's MULTIPLE PRODUCTS
THE JOINT MERITORIOUS UNIT AWARD
THE GENERATION OF COST-AVOIDANCE
CENTER OF NAVY ANALYSIS REPORTS

I just received a copy of the Joint Meritorious Unit Award citation for USUHS. Congratulations! The entire staff can be justifiably proud. USUHS provides an invaluable service to the Armed Forces and to America. Nowhere else will you find a similar quality of research and medical training with the specific goal of meeting the demands of military medicine. And the price is right! As the citation points out, you are actually saving money for the government and the taxpayers.

- **The Honorable F. Whitten Peters, Secretary of the Air Force, Department of Defense**, Letter to USU, dated January 20, 2001.

OSD-Conducted Surveys Recognize USU's Academic Certification and Faculty Credentials. In mid-1997, Management Reform Memorandum 3, Office of the Secretary of Defense (OSD), called for a study of the educational and professional development programs sponsored by OSD. That study and the efforts of the Defense Reform Task Force led to the Defense Reform Initiative's decision to establish an Office of the Chancellor for Education and Professional Development. Throughout 1997 and 1998, the USU Vice President for Administration and Management (VAM) coordinated the University's participation in intensive surveys on streamlining education throughout DoD. The University provided inclusive responses to the Office of the Deputy Assistant Secretary for Civilian Personnel Policy; those responses included all of the services and products resourced by USU as part of its operating cost. *These OSD-conducted surveys mark the first official OSD recognition of the multiple products of USU in addition to its medical school graduates.* As a result of those surveys, and based on the average course length of the continuing education efforts of the University, OSD analysts identified approximately 188 student man years in addition to the 820 (SOM - 660; GSN - 70; Graduate Education - 90) uniformed students who are traditionally credited to the University.

During 1998, in response to DoD's Defense Reform Initiative Directive 41, a two-part survey on faculty credentials was conducted by the USU VAM for use in the development of a blueprint for the Office of the Chancellor to be established within OSD. *The Office of the Deputy Assistant Secretary for Civilian Personnel Policy concluded, as in August of 1997, that USU has the strongest academic certification and faculty credentials among all activities surveyed.*

USU Comprehensive Annual Faculty Listing Report. As part of an on-going process for sharing information with OSD reference the credentials of the USU faculty, the USU Vice President for Administration and Management coordinates and publishes a comprehensive annual faculty listing report. During each year, all full-time faculty members *(329 full-time faculty during 2002 - 209 civilians; 120 uniformed officers)* are counted in the totals of the Department where each holds his or her primary faculty appointment. Although it only captures a point in time, the annual report documents the unique and wide-reaching, collaborative relationships of the University with its off-campus faculty *(3,989 off-campus faculty during 2002 - 1,195 civilians; 2,794 uniformed*

officers). Since the initial report completed in 1998, recommendations from the USU community have been incorporated so that the following information is included within the annual report: 1) totals of full-time faculty (civilian and uniformed faculty members are identified by name); 2) the tabulation of academic titles, in accordance with USU Instruction 1100; 3) totals of part-time faculty (identified by name); 4) totals of off-campus faculty (civilian and uniformed off-campus faculty are identified and totaled by academic titles); and, 5) totals of civilian faculty with tenure or with tenure pending are identified by name. All of this information is broken out by Department or Activity; it is then combined and totaled for the School of Medicine or the Graduate School of Nursing; then, all totals are combined to form an inclusive summary for the University. A copy of the 2002 annual faculty listing report was provided on November 15, 2002, to the USU President, Deans, Department Chairs, Activity Heads, the USU Board of Regents (to include the Assistant Secretary of Defense for Health Affairs), the USU Executive Committee (the Surgeons General and their staffs), and the Office of the Chancellor of Education and Professional Development in the Office of the Secretary of Defense.

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OSD Joint Meritorious Unit Award Recognizes the Multiple Products of USU. On December 11, 2000, the Secretary of Defense awarded the Joint Meritorious Unit Award to the University. *This significant award documents OSD's recognition of the essential mission, exceptional service over the past decade, and the multiple cost-effective programs of USU* (the SOM, the GSN, Graduate Education Programs, Graduate Medical Education, Continuing Education for Health Professionals, the Military Training Network, Clinical Support for the MTFs, etc.). Public Law 92-426, *the Uniformed Services Health Professions Revitalization Act of 1972*, mandated that the University should meet the special needs of the Military Health System (MHS) through the provision of uniquely trained, career physician officers who would ensure continuity and leadership for the MHS. As validated by the Secretary of Defense in the citation for the Joint Meritorious Unit Award, the University has exceeded the goals set by the early visionaries who established USU.

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In addition to the Multiple Products and Services of USU, Four USU Programs Generate 24.6 Million Dollars of Cost-Avoidance for the Military Health System. Critical to the University's efforts for optimization, the Middle States Association of Colleges and Schools Commission on Higher Education (MSA/CHE) has granted accreditation to USU from 1984 through 2013. This essential accreditation, most recently with commendation, has enabled the University to support and generate cost avoidance for the MHS through its multiple educational programs, all of which are accredited by a total of thirteen independent accrediting entities, in addition to the MSA/CHE. In meeting the mandates of its establishing legislation and the standards for accreditation as an academic institution, ***USU provides multiple services and products for the Military Health System (MHS), all of which are recognized by the Office of the Secretary of Defense.***

The Alumni of the USU School of Medicine. The principal product of USU continues to be its 3,268 USU SOM uniquely trained, career-oriented physicians who are prepared to practice military medicine in the multi-Service environment of USU; and, as a result, USU ensures continuity and leadership for the MHS (stated totals are effective through April of 2003); ***the 2,526 USU SOM alumni on active duty in the Armed Forces***

represent twenty-one percent of the 11,907 physicians on active duty in the MHS (the Army has a total of 4,189 physicians on active duty, of which, 1,016 are USU graduates; the Navy has a total of 4,023 physicians, of which, 748 are USU graduates; and, the Air Force has a total of 3,695 physicians, of which, 762 are USU graduates). In addition, 94 USU SOM alumni continue to serve on active duty in the United States Public Health Service, for a total of 2,620 USU SOM alumni who continue to serve their Nation in the Uniformed Services; the overall retention for USU SOM graduates from the first graduating Class of 1980, through April of 2003, is 83.6 percent; and, of the USU SOM alumni who have completed their residency training, almost one out of every two USU graduates holds an operational or leadership position.

The Graduate School of Nursing. The fully accredited USU Graduate School of Nursing (GSN) has provided 183 Masters of Science in Nursing Degrees to advanced practice nurse graduates through its MSN Program options in Nurse Practitioner and Certified Registered Nurse Anesthesia with over 80 percent remaining on active duty; ***all 183 GSN graduates have passed their certification examinations with greater than a 97 percent pass rate on the first attempt*** (as of April 2003); during 2002, at the request of the Federal Nursing Chiefs, the GSN developed and received approval from the USU Executive Committee and Board of Regents for a Doctoral Degree Program in Nursing and a Clinical Nurse Specialist option in the MSN Degree Program; both will be implemented in 2003.

Clinical Services Provided by USU/SOM/GSN on-site Faculty. In 2002, during their course of teaching, the USU faculty provided over 141,842 hours of clinical care at the Army, Navy, and Air Force Medical Treatment Facilities (MTFs) in the National Capital Area; *the annual, manpower cost avoidance generated by the USU faculty through this clinical support (141,842 hours) is estimated at $10,254,109*.

The SOM Graduate Education Programs. As of April 2003, the SOM Graduate Degree Programs have conferred a total of 727 Basic Science Degrees; *the annual cost avoidance generated by the USU SOM Graduate Education Programs for the MHS during 2002 was estimated at $1,050,000*.

The USU Office of Continuing Education for Health Professionals and the Military Training Network. The USU Office of Continuing Education for Health Professionals (CHE), to include the Military Training Network (MTN), provides significant, cost-effective support for the MHS by facilitating the continued professional growth of health care professionals throughout the MHS; *because CHE and MTN bring training to the military health care providers, an annual, estimated cost-avoidance of $13,286,774 was generated during 2002 for the MHS*.

The SOM Office of Graduate Medical Education. The USU Office of Graduate Medical Education (GME) provides cost-effective support for the MHS in that it serves as the Administrative Office and provides oversight for the National Capital Consortium (NCC); collects and evaluates data on DoD GME programs to ensure academic and scientific excellence; and, provides consultation and advice for the Dean of the SOM, the President of USU, and others on military-unique medical curricula. During 2002, all of the GME programs in the National Capital Area came under the sponsorship of the NCC, bringing the current total to 65 programs.

USU Serves as the Academic Center for the MHS. USU serves as the Academic Center for academic and research activities for 2,794 active-duty, off-campus USU faculty located throughout the MHS; USU on-site faculty have sponsored, hosted, or participated in the major conferences held by the MHS; in addition, military relevant consultation is continuously provided to the MHS and other Federal agencies by the internationally recognized experts within the University's multiple centers, departments, programs, and institutes. As addressed in this Section of the Journal, *the military-relevant research conducted at USU, in collaboration with many hundreds of off-campus USU faculty assigned throughout the MHS, addresses critical issues for the Armed Forces*. The knowledge documented by the on-site and off-site USU faculty through their collaborative research is opening new avenues to: enhance the quality of clinical care; and, better control, diagnose, protect, and provide treatment for millions of MHS beneficiaries.

All of these products and services are resourced as part of the operating cost of the University and are discussed throughout this report.

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Two Studies by the Center for Navy Analysis on Retention and Cost-Effectiveness Recognize the Critical Requirement for USU SOM Graduates. An example of the critical role of USU SOM graduates in the MHS was reported during February of 2001, when the Center for Navy Analysis (CNA) provided data on medical retention to the Navy Surgeon General for use in his response to the Senate Appropriations Committee. The Navy Surgeon General informed the Congressional Committee that his most undermanned specialties were general surgery and all surgical subspecialties, orthopedic surgery, diagnostic radiology, anesthesiology, and urology. Many of these specialties are critical wartime specialties and shortfalls could have a negative impact on medical readiness. The Navy response stated the following... ***Overall, the median length of non-obligated service for physician specialists averages only 4.4 years. That average drops to 2.9 years when USU graduates are excluded; the median length of non-obligated service as a specialist for USU graduates is 9 years.***

In April of 2003, CNA released *Phase II: The Impact of Constraints and Policies on the Optimal-Mix-of-Accession Model* from its major study, *Life-Cycle Costs of Selected Uniformed Health Professions*. The second of six major CNA findings states... ***Policy-makers need to consider the costs and benefits for each accession source. For example, even though USUHS accessions are the most costly*** (when including all Federal costs, a 1995 General Accounting Report (GAO) found that USU and HPSP Scholarship graduates are comparable in cost)***, their better retention makes USUHS the most cost-effective accession source for filling 0-6 grade requirements in the MHS***. Thus the outstanding retention rates of USU SOM graduates ensure that critical wartime specialties are filled; medical readiness requires the continuity and leadership provided by the USU SOM alumni.

Summary. The strengthened relationship of the University with OSD and OSD's recognition of the numerous cost-effective programs of USU is documented by the following: 1) the OSD surveys of 1997 and 1998 which officially recognize the multiple products, academic certification, and faculty credentials of USU; 2) the awarding of the Joint Meritorious Unit Award to USU by the Secretary of Defense, which specifically recognizes the multiple, cost-effective programs of USU; 3) the cost-avoidance generated by the University for DoD during 2002 (estimated at $24.6 million); and, 4) the two studies by the Center for Navy Analysis (CNA), which document both the outstanding retention rates of the USU SOM graduates and the resulting cost-effectiveness of utilizing USU alumni to fill leadership positions throughout the MHS.

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ACADEMIC CENTER FOR THE MILITARY HEALTH SYSTEM

Following his service in both World War II and the Korean War and his review of the medical capabilities during the Vietnam War for the United States Senate, he became dedicated to preserving the lessons learned in military medicine; he concurred with *Congressman F. Edward Hebert's philosophy that America needed an academic home for military medicine...* USUHS became a part of his overall commitment to the preservation of the hard-won knowledge of the battlefield, the absolute priorities of preventive medicine, the tremendous achievements of uniformed research, and the need for an academic home for military medicine.

- **The Honorable Strom Thurmond, the United States Senate,** Congressional Record, *In Remembrance of Brigadier General Vorley (Mike) Rexroad, USAF (Retired),* November 12, 2002, pages S10832-S10833.

Active-Duty, Off-Campus USU Faculty Total 2,794. Multiple USU academic and research activities contribute to the medical knowledge and technology base available to the MHS. During 2002, 2,794 active-duty, off-campus USU faculty members throughout the MHS collaborated with the University through academic and research efforts. ***Through these collaborative efforts, USU serves as the Academic Center for those military medical officers and health care providers who seek to advance their military careers and their knowledge of uniformed health care.*** For their valuable service to the University, these active duty, off-campus faculty members are awarded appropriate academic rank. **This section provides selected examples of military relevant conferences or academic activities sponsored by, or collaborated with, the University; all of which document why USU is serving as the Academic Center for Military Medicine.**

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16th Conference on Military Medicine - Enhancing Readiness: Implementing Change in Military Medical Education, June 17-20, 2002, USU Campus. The University continued to serve as the Academic Center for Military Medicine through the planning and presentation of the 16th Conference on Military Medicine - *Enhancing Readiness: Implementing Change in Military Medical Education*, which was held on the USU campus from June 17-20, 2002, with 120 attendees. The military medicine conferences are annual continuing education activities that focus specifically on current challenges facing military medicine. Distinguished speakers included: **The Honorable William Winkenwerder, Jr., M.D., MBA, Assistant Secretary of Defense for Health Affairs; Lieutenant General Paul Carlton, Surgeon General of the Air Force; Rear Admiral Donald Arthur, MC, Deputy Surgeon General of the Navy; Major General Kevin Kiley, MC, USA, Commander, Army Medical Command Center; Val G. Hemming, M.D., Dean Emeritus, USU School of Medicine (SOM); Larry W. Laughlin, M.D., Ph.D., Dean, USU SOM; CAPT Greg Martin, MC, USN, Program Director, Infectious Diseases, National Capital Consortium; Norman M. Rich, M.D., Professor and Founding Chair of the USU SOM Department of Surgery; and, COL Christoph Kaufmann, MC, USA, Chief, USU Division of Trauma and Combat Surgery, USU SOM, Department of Surgery**. Conferees were divided into four working groups to focus on four key aspects of military medical education: content; methods of learning; outcomes measurement; and, certification.

Four Objective Areas Are Prioritized and Provide a Framework for the Identification of Key Curricular Components.

Four Objectives Are Identified: Emerging Technologies; Emerging Threats; Ethical Considerations; and, Changing Missions and Operations. The content group built directly upon the foundation laid by participants in the 15th Annual Conference on Military Medicine (held in June of 2001). *The 2002 participants further prioritized and divided the series of objectives, identified during 2001, into the areas of: emerging technologies; emerging threats; ethical considerations; and, changing missions and operations.* Despite overlap among the four areas, the division into four areas provided a useful framework for the identification of key curricular components. Objectives within each domain were categorized as *need to know*, *ought to know*, and *nice to know*; they were then further prioritized within each of those categories. This provided a guideline for inserting elements into the continuum of military medical education; however the participants did not identify areas that might be cut back within the current curriculum. An Executive Curriculum Committee under the leadership of the Dean, USU SOM, was identified to coordinate the incorporation of these recommendations as part of an on-going process of curriculum renewal.

The RIME Approach - Teaching of a Given Element at Multiple Levels. The second working group, addressing methods of learning, developed a sample template for determining the best methods of learning given a specific learning task. The group concluded that the teaching of a given element should occur at multiple levels, to provide important repetition, while also facilitating the addition of more complex elements of knowledge, skills and attitudes over time. The ***RIME Approach*** includes: ***R***: at the introductory level, the student learns to be a good reporter, mastering the medical history and physical examination and case presentation; ***I***: at the next level, the learner demonstrates the ability to be an interpreter, able to develop a differential diagnosis for the constellation of signs and symptoms identified in a given patient; ***M***: at this level, the learner demonstrates the ability of a manager, describing a sensible plan for the diagnosis and management of a patient's problems; ***E***: at the highest level of learning, the learner becomes an educator, capable of teaching patients and peers; for example, counseling patients about behaviors or treatment preferences and identifying potential benefits and risks. In addition, the second group constructed a *toolbox* for students learning with the various methods identified and an instructional manual to aid the user. The group recognized a need for faculty development in order to assist faculty members with becoming adept at using the new technological tools students are using, or can be expected to use, in the near future. The ***RIME Approach*** is already being used at USU: in USU Computer Courses; at the USU Simulation Center; during Faculty-Developed Seminars; and, other activities as described under *Information Technology* found in this section of the Journal.

The Teacher-Learner-Content Triad. The third working group addressed the complex task of measuring outcomes associated with modifications in the process of military medical education. The group first recognized the importance and relative ease of firmly establishing appropriate structure and processes for medical care in order to achieve desirable outcomes. Methods of ensuring that this is the case were discussed. Outcomes were then viewed in terms of the *Teacher-Learner-Content Triad*; and, the importance of the perspective from which outcomes are viewed was emphasized. The strengths and weaknesses of a series of outcomes measures were reviewed by the group, to include the following: multiple choice tests; essay tests; yes/no tests; the military medicine test question bank; a web-based learning data bank; role play; surveys; direct observation; chart review;

stimulated chart review; Objective Structured Clinical Examinations (OSCE); standardized patients; self-assessment; peer-assessment; virtual reality; interative CD-ROM; interactive web-based training; simulation modules; clinical skills examination; data mining; and, case-based scenarios. The participants agreed that the decision to select a particular tool should be made within the context of the type of information being taught and the domains one wishes to test. *However, the group concluded that simulation, particularly through the creation of an interactive on-line or CD-ROM based game, has the greatest potential for enhancing military medical readiness*. The group determined that the development of this method of learning deserves the highest consideration in time and resources. In addition, this group, like the methods of learning group, recognized the importance of faculty development, and suggested the use of a *Train-the-Trainer Approach* to disseminate military medical expertise across the military medical teaching institutions.

Certification of Expertise in Military Medicine. The fourth group examined the potential for establishing certification of expertise in military medicine. *Group members expressed the opinion that, despite some differences between medical specialties and Branches of the Services, there is a core body of knowledge and skills that is important to all military physicians*. The benefits of a certification process would include: recognition of achievement; qualification for leadership; and, identification of experts who could be called upon during times of critical need. Various approaches to certification were considered before agreeing upon a design that would establish two levels of certification at the operational and the expert level; the expert level, supplemented by a research project, would form the basis of a Master of Science Degree Program in Military Medicine. Requirements would be completed through experience or course work in seven areas: Leadership; Preventive Medicine; Field Experience; Administrative Aspects of Military Health Care; Casualty and Incident Management Care; Scholarly Activity; and, Service and Specialty Specific Considerations. In addition, three letters of recommendation from supervisors or colleagues would be required to describe experience and qualifications for certification. A certifying board would review the submitted credentials and award certification. The participants agreed that the most logical certifying authority would be USU, particularly if a Master of Science Degree in Military Medicine is required; other alternatives such as coordination with the Association of Military Surgeons of the United States (AMSUS) might be considered, depending upon the format that is selected.

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Activities of The Center for the Study of Traumatic Stress, USU SOM Department of Psychiatry. The USU SOM Center for the Study of Traumatic Stress, CSTS, established in 1987, has been highly sought out, both nationally and internationally, for its consultative, educational, and research capabilities in the area of traumatic stress. During 2002, the CSTS completed the only two empirical studies of Family Violence and the Army using an Army data base for one study and a study of troops from Fort Hood (to include their spouses) who were deployed to Bosnia in the other. *Currently, the CSTS is initiating studies on the effects of the traumatic stress resulting from the October 2002 Sniper Acts of Terrorism in the Washington, D.C. area on both the Military Health System and the civilian emergency responder communities*. During 2002, *the CSTS was the major planner in the recent DoD/National Institutes of Health (NIH) Consensus Meeting on Early Interventions Following Incidents of Mass Violence* to prepare state and local leaders for the stress resulting from bioterrorism. In addition, Doctor Ursano was invited to write an editorial, *Post-Traumatic Stress Disorder*, for the January 10, 2002, issue of the New England Journal of Medicine. Also during 2002, he was one of three speakers at the Annual Carter

Center Symposium on Mental Health Policy and September 11th, along with **Julie Gerberding, M.D., Director, Centers for Disease Control**, and **Neil Cohen, M.D., of the Commission of Health for New York City**. During 2002, the CSTS collaborated on a publication entitled, *Mental Health Intervention and High-Risk Groups in Disasters*, for World Psychiatry, a widely circulated international journal. (See Section II, *Research Centers and Programs*, for additional contributions of the CSTS during 2002.)

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6th International Conference on Tactical Emergency Medical Support, "Protecting the Protectors." The USU Casualty Care Research Center (CCRC), established in July of 1989, serves as a repository of resources and information relating to injury control, injury epidemiology, and operational medicine for the Uniformed Services. On June 7-9, 2002, the CCRC was proud to sponsor another of a series of conferences, which have been consistently well attended and have offered significant support to the law enforcement and public safety communities. This year's conference was held in Las Vegas, Nevada and entitled, *Protecting the Protectors*, and included a Keynote Address by **Lieutenant General Frank Libutti, USMC (Retired), Deputy Commissioner for Counter-Terrorism, New York City Police Department**. Presentations provided by personnel involved directly with the World Trade Center and Pentagon catastrophes were well received, as were presentations from several other clinicians and operators in the fields of Tactical EMS and Special Operations Medicine. The *2002 David Rasumoff Memorial Award for Heroism* was presented to **John Busching of the New York City Police Department Emergency Services Unit** for his selfless acts of bravery following the terrorist attacks at the World Trade Center. (See Section II, *Research Centers and Programs*, for additional information on the significant contributions of the CCRC during 2002.)

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USU Center Sponsors a Three-Day Conference in Panama City, Panama, and a One-Day Pre-Conference Workshop at the 60th Annual Conference of the United States - Mexico Border Health Association. The USU Center for Disaster and Humanitarian Assistance Medicine (CDHAM), established in 1998, has served as a focal point in the MHS for assisting in the critical management of relief efforts in the medical response to weapons of mass destruction, terrorism, natural disasters, and humanitarian assistance contingencies through new developments in the areas of disaster and humanitarian assistance medicine. In 2002, the USU CDHAM hosted a conference to increase the sub-regional expertise in laboratory-based epidemic outbreak surveillance in Panama City, Panama, as requested by the United States Southern Command (SOUTHCOM). During 2001, a collaborative study between the CDHAM and the Instituto Conmemorativo Gorgas de Estudios de la Salud (ICGES) was funded by SOUTHCOM to identify health research and capacity enhancements that would strengthen the local capacity for prevention and response before, during, and following man-made or natural disasters. In accordance with one of the short-term recommendations identified in the initial USU-ICGES Study, an integrative project was executed with the DoD-Global Emerging Infections System (DoD-GEIS) to increase the sub-regional expertise in laboratory-based epidemic outbreak surveillance. A conference, co-sponsored and organized by CDHAM, served as the venue for this effort during 2002. ***The Phase II Course/ Workshop on the Public Health Laboratory Information System (PHLIS) for Central America and the***

***Dominican Republic was held in Panama City, Panama, as requested by SOUTHCOM*.** The conference, hosted by the Gorgas Institute's Public Health Central Reference Laboratory in Panama City, Republic of Panama, included break-out sessions in disaster preparedness medicine and a two-day working meeting for the public health laboratory directors from the seven sub-regional countries in Central America, in addition to Panama and the Dominican Republic. The training at the Panama conference was collaboratively planned, organized and implemented by DoD-GEIS, CDHAM, the Pan American Health Organization (PAHO), and the Pan American Health and Education Foundation. Thirty Ministry of Health professionals (epidemiologists, bio-informatics, and laboratory directors) from eight countries (El Salvador, Guatemala, Belize, Nicaragua, Honduras, Costa Rica, the Dominican Republic, and Panama) attended.

Also during 2002, the ***CDHAM participated in a one-day, pre-conference workshop for community emergency/first responder civil authorities, border health workers, and military personnel of the United States and Mexican Armed Forces as part of the 60th Annual Conference of the United States - Mexico Border Health Association (USMBHA)***. The sponsors of the workshop conducted a bioterrorism exercise simulated to occur along the United States-Mexican Border; the CDHAM provided real-time, hands-on demonstrations using commercial, off-the-shelf telemedicine equipment (see Section II, *Research Centers and Programs*, for more information on the contributions of CDHAM during 2002).

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9th Faculty Senate Research Day and Graduate Student Colloquium - 2002. The 9th Annual Faculty Senate Research Day and Graduate Student Colloquium were held at the USU campus on May 15-16, 2002. This year's theme was *The Post Genomic Era: Implications for Research, Education, and Public Health*. The two-day event brought approximately 250 individuals to the USU campus, including researchers from affiliates such as the National Naval Medical Center, the Walter Reed Army Medical Center, the Armed Forces Institute of Pathology, the Washington Hospital Center, and the Walter Reed Army Institute of Research. This year's events included internationally known keynote speakers, as well as presentations of on-going research by USU faculty, USU graduate students, and investigators from the above listed affiliated institutions. This year's three symposia, workshop and poster presenting sessions addressed: career development strategies for graduate students; emerging issues in proteomics and bioinformatics; technology transfer; and, ethical issues in research with human subjects. A special panel on bioterrorism featured **The Honorable Saxby Chambliss, former member of the United States House of Representatives from Georgia**; **United States Ambassador, The Honorable Donald A. Mahley**; **Debra Krikorian, Ph.D., United States Army Medical Research and Materiel Command**; and, faculty from both USU and AFRRI.

The Graduate Student Colloquium was established in 1980 to promote scholarly communication between graduate students and the academic community at USU and to recognize the research achievements of USU graduate students. The 2002 Graduate Student Colloquium featured a career workshop organized by the students, platform and poster presentations given by students, and the *John W. Bullard Lecture*. The Career Development Workshop consisted of seven presentations by accomplished individuals working in various aspects of the scientific enterprise. These ranged from medical school faculty, to scientific review administrators, to patent lawyers

involved with biotechnology, to a study director at the National Academy of Science. Nine scientific poster presentations by graduate students were followed by a lunch, which included the Bullard Lecturer and six oral presentations by students. *The 2002 Bullard Lecture* was presented by **Marc K. Jenkins, Ph.D., Professor, Department of Microbiology, University of Minnesota,** on *Tracking the Generation of Memory CD4T Cells in vivo.*

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ORGANIZATIONAL CULTURE

Stewardship: We will protect and enhance both the human and physical resources of the University to maximize productivity while promoting a sense of family and community, both on and off campus.

- Goal 5, USU Strategic Plan, approved by the USU Board of Regents during May of 2003.

Continuous Efforts to Ensure a Diverse Community that Is Powerful, Committed, and Energized. A common challenge for most educational institutions is the goal to recruit and retain highly qualified students, faculty, and staff. As USU works to achieve that goal, it must also strive to reflect the diversity which exists in both the Services and our Nation. The five USU Offices of University Recruitment and Diversity (ORD), Student Affairs (OSA), Civilian Equal Employment Opportunity (EEO), Military Equal Opportunity (EO), and the Brigade Commander (BDE) collaborated with the Civilian Human Resources (CHR) Directorate during 2002 to ensure that the University continued to promote respect, appreciation, and understanding throughout its multi-Service activities. During 2002, the University's emphasis was on encouraging cooperation, development, diversity, communication, and collegiality by: 1) the identification and encouragement of equal opportunity principles and diverse cultures through numerous university forums, individual counseling sessions, recruitment strategies, and community service activities; 2) the timely sharing of relevant information through continuing orientation programs, on-going USU publications, educational web sites, and advanced technology; and, 3) the provision of extensive development and recognition programs for the civilian and military members of the USU family.

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Communicating Equal Opportunity Principles and Appreciation of Diversity.

1,150 USU Personnel Participate in Four Community Events. During 2002, the USU Office of Equal Employment Opportunity (EEO), with the volunteered-support of the USU Special Emphasis Program Managers, continued to present USU Community Sessions to reinforce both the understanding of, and the appreciation for, the cultural diversity that exists throughout the University. The *January 2002 Dr. Martin Luther King Jr. Birthday Celebration: Living the Dream, Let Freedom Ring,* featured **Brigadier General Clara Adams-Ender, USA (Retired)**, who presented the Keynote Address to over 200 faculty, staff, and students from the USU community. On May 28, 2002, 80 members of the USU family met to acknowledge *Asian American/Pacific Islander Month; the 2002 theme was: Challenges that Asian Americans and Others Must Face in the New Millennium*. One of the USU family members, **Colonel Robert R. Eng, MS, USA, Director, Armed Forces Radiobiology Research Institute (AFRRI)**, delivered a moving message describing his vision for the new Millennium from his perspective as an Asian-American; the audience participated during an enthusiastic discussion session following Doctor Eng's presentation. Then, on September 25, 2002, 70 members of the USU community met to recognize *Hispanic Heritage Month; the 2002 theme was: Who Are the Hispanics?* The Keynote Address was presented by **Ms. Yolanda Maldonado-Echevarria, Director of the Hispanic Employment Program, the United States Army**

Equal Employment Agency. The presentation was followed by a discussion session with audience participation. Also, during September of 2002, a Memorial Service was coordinated by the **USU Brigade Chaplain, CAPT Steven Evans, USN**: *Honoring the Memory of the Victims of the Terrorist Attacks on September 11, 2001*, to acknowledge the one-year anniversary of the tragic event. Eight hundred members of the USU family either gathered together to share a moment of silence, or remained at their work stations; all demonstrated their respect and sense of loss for those whose lives were ended by the violent event.

Student Professional Activities and Meetings. The coordinating efforts of the USU Office of Recruitment and Diversity (ORD) with members of the ***USU Student National Medical Association (SNMA) Chapter***, the ***SNMA Minority Forum***, and ***Women in Medicine and Science (WIMS)*** resulted in the successful sponsoring of numerous meetings and activities throughout 2002. Dinner socials provided SNMA and WIMS members with an opportunity to socialize and network with faculty and physicians in a relaxed atmosphere; and, opportunities were provided for discussing important issues such as residency selections, physician and patient expectations, professional demands in the military setting, effective time management, and societal minority and gender issues.

The ***USU Chapter of the Asian Pacific American Medical Students Association (APAMSA)*** is a student organization that was initiated under the sponsorship of ORD during 2001 and functioned throughout 2002. The APAMSA was founded in 1995 and represents over 16,000 Asian Pacific American medical students; the organization serves as an advocate for the advancement of quality medical care for the growing Asian Pacific community. The USU APAMSA Chapter initiated several successful projects during 2002 with the Johns Hopkins University School of Medicine APAMSA Chapter, to include: a *back-to-school social* with the George Washington University and Georgetown University APAMSA Chapters; a *lecture on stress* providing techniques for addressing their common concerns; a *lottery night* to prepare for the third-year clerkships; and, a *winter celebration* event.

Also during 2002, the USU medical students continued their weekly and/or monthly trips to public schools to discuss medicine, science, research, and the medical profession with young students through a community outreach program entitled, the ***Youth Science Enrichment Program (YSEP)***. The YSEP is designed to motivate America's youth toward medical, scientific, and military careers. The USU students familiarized the young students with such areas as the human skeleton, first-aid care with bandaging and braces, and medical triage based on the severity of injuries and potential scenarios. In addition, the YSEP Committee, under the leadership of the USU SNMA, continued its coordination of on-going USU community support for the Washington, D.C. Public Schools through visits and seminar presentations.

Provision of Formal and Informal Counseling. The USU Offices of Equal Employment Opportunity (EEO), Equal Opportunity (EO), Recruitment and Diversity (ORD), and Student Affairs (OSA) continued to provide formal and informal counseling throughout the Year 2002. The EO Office did not have to provide formal counseling sessions to the uniformed members of USU during 2002; the EEO Office provided one formal and eight informal counseling sessions to the USU civilian staff during the past year. Beginning in September, OSA conducted well over 300 formal interview and counseling sessions for the first and third-year medical students; in addition, ORD also continued to provide individual counseling sessions for numerous uniformed students. The success of these counseling sessions is evidenced by the ever increasing appreciation and respect shared among the individual members of the University. In addition, the EO representatives for the USU Brigade provided EO

training for all uniformed members of the University during 2002; the training sessions addressed diversity, acceptance of others, management of difficult situations, and the identification of harassment in both the work place and in the academic setting.

Faculty Senate Outreach Program for Working Mothers. In response to recommendations of the USU faculty and the President of the Faculty Senate, the Office of Administration and Management coordinated the construction and establishment of a Mother's Lactation Room to assist working mothers who wish to continue breast-feeding their babies after returning to work. The room provides for privacy and is equipped with appropriate furniture, electrical outlets, and a refrigerator for the storage of expressed milk. At the time of its establishment during 2000, USU was the only DoD entity to provide such a facility. The program continued throughout 2002.

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Timely Sharing of Information.

The USU Web Is Used to Provide Information Throughout the USU Community. During 2002, the Center for Informatics in Medicine (CIM) continued to provide computer orientation courses for faculty and students. The Center currently hosts over 100 educational web sites, which support distance learning residents and students and local residents, students and faculty. *Highlighted sites include Telegenetics* (the USU SOM Department of Obstetrics and Gynecology) *and the University's on-line student assessment of instruction* (the GSN and SOM); self-assessment; surveys; quizzes; and, examinations are utilized by: the Faculty Senate; the GSN VA/DoD Distance Learning Program; GSN Nurse Anesthesia; GSN Nurse Practitioner; and, the School of Medicine Departments of: Anatomy, Physiology and Genetics; Medicine; Pathology; Pediatrics; Pharmacology; Preventive Medicine and Biometrics; and, Radiology and Radiological Sciences. The Vice President for Teaching and Research Support, in coordination with the Department of Biomedical Informatics, CIM, and the University executive management, monitored electronic programs to enhance existing educational programs and new educational services; meetings between faculty representatives, staff, and executive management were followed by the electronic distribution of meeting summaries.

The 2001 Edition of the USU Journal. To ensure that information was shared with both internal and external customers, the University published and distributed more than 800 copies of the 2001 Edition of the USU Journal during 2002. Each copy included a CD-ROM; and, all 329 USU faculty members received a copy of the Journal in CD-ROM format. Each Edition of the USU Journal provides an inclusive background on the history and development of the University; it also describes the achievements of the past year and any changes which may have taken place throughout USU's educational programs, centers, and institutes. The Journal, sometimes referred to as *The USU Encyclopedia*, serves as a source document for the University's responses to congressional, executive, and general requests for information throughout the current year. This annual report, coordinated by the Vice President for Administration and Management with the University President, documents how relevance, readiness, and optimization are successfully emphasized throughout the University's programs and activities and how the goals of the USU Strategic Plan have been met during the past year. Numerous letters

of acknowledgement and accolades have been received by the University since its initial distribution; selected examples include: the USU Deans, Department Chairs, and Activity Heads; the Deputy Secretary of Defense; the Secretary of the Air Force; the Chairman of the Joint Chiefs of Staff; the Chief of Naval Operations; the Commandant of the Marine Corps; the Surgeons General of the Army, Navy, Air Force, and the United States Public Health Service; the American Medical Association; and, the current Secretary of State.

USU Orientation Program. Since October of 2000 through 2002, the *USU Civilian Human Resources Directorate*, with the participation of the senior leadership at USU, has *sponsored formal sessions of the USU Faculty and Staff Orientation Program for 256 in-coming civilian and uniformed members of the University community: 45 during 2000; 92 during two sessions held in 2001; and, 119 during three sessions held during 2002*. Initially coordinated by the USU Civilian Human Resources Directorate, the Military Personnel Office, and the Associate Dean of the Graduate School of Nursing, the purpose of the on-going program is to present the newly-appointed members of the USU community with the philosophy, goals, policies, and leadership principles of USU. Orientation packets with key facts and other selected information are provided for review and future reference. For example, *the USU Environmental Health and Occupational Safety (EHS) Department briefs the new employees on its initiatives to raise the safety consciousness of the USU researchers and the general community*. In addition, since February of 2000, *the SOM Office of Faculty Affairs has maintained a Faculty Handbook on the USU web site*. The handbook describes the organization and functions of the various components of the University; and, it is designed to orient the new USU faculty members to the structure and history of USU, the SOM, and the GSN. The handbook also serves as a quick guide for the delegation of responsibilities at the University and where to seek information, guidance, or other faculty-related requirements. New faculty members are introduced to the USU web site and encouraged to utilize the information. Since its establishment, the USU orientation process has promoted a positive initial employment experience and has successfully initiated the socialization of 256 new employees with the USU organizational culture. Similar sessions will continue during 2003.

USU Development Program. The Vice President for Executive Affairs presented the newly established USU Development Program to the USU Board of Regents in August of 1999. Initially, consultants at the Mayo Clinic and Harvard University mentored the new Program. The USU Development Program was established to be compliant with federal law, which prohibits USU from soliciting funding. The Program continues its development in cooperation with the Henry M. Jackson Foundation where non-federal funding was identified to be used in hiring the initial staff. A marketing video and CD-ROM were also completed during 1999. Following the establishment of the Program, the Packard Foundation notified the University that it had approved one million dollars for a Packard Chair in the Department of Surgery. Under the supervision of the USU Vice President for Executive Affairs, **Mrs. Helaine C. Ahern**, was hired by the Henry M. Jackson Foundation to serve as the first **Assistant Vice President for Development**. During its first two years of existence, the USU Development Program implemented activities outlined in the business plan developed in early 2000, complementing the goals of the USU Strategic Plan to increase awareness and financial resourcing. During 2002, numerous proposals were sent to targeted foundations requesting support for the priority needs of USU, with a focus on post-traumatic stress, humanitarian/disaster medicine, and operational medicine training. In addition, site visits to the campus were arranged for representatives of foundations and other potential sources of funding. Faculty, parents, and alumni were again solicited, and the USU SOM Class of 2002 was supported in its efforts to raise funds for an

endowment for medical education. In addition, the Graduate School of Nursing (GSN) was assisted in its initiation of a research endowment in honor of Dean Emerita Faye Glenn Abdellah. More than $60,000 has been raised to date as a result of these various initiatives, approximately half of which is unrestricted. The second issue of USU Medicine was published, with a focus on research; the publication, produced by the USU Development Office, was distributed to 3,700 alumni, friends, 125 medical school deans, and other external audiences. Adjunct faculty members have also been cultivated in response to their estate planning and other philanthropic interests. While it is still early in the growth of this program, the staff has been successfully working to increase the visibility of USU's unique strengths and financial requirements, in order to provide the groundwork for long-term major fund development.

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Personal Development and Retention.

Individual Recognition. Throughout 2002, the USU community worked to build and strengthen cooperation, integrity, trust, and collegiality as well as to reward individual members for their contributions. An on-going performance evaluation process developed by the Civilian Human Resources Division (CHR) and the Brigade Command ensured that each employee received an annual rating and appropriate recognition for his/her accomplishments. During 2002, CHR continued its procedures for tracking individual employee's years of service. The University President personally presented service awards to designated employees at their work sites. *To date, 87 civilian service awards have been presented; the program has been well received. And, during 2002, the Office of Military Personnel approved, processed, and presented 99 awards for the USU military personnel*: 29 Joint Service Achievement Medals; 16 Joint Service Commendation Medals; 41 Defense Meritorious Service Medals; 3 Army Achievement Medals; 3 Army Commendation Medals; and, 1 Military Outstanding Volunteer Service Medal. In addition, 32 USU Honorary Awards were issued during 2002.

Training Opportunities Provided to USU Employees. During 2002, the USU Offices of Civilian Human Resources (CHR), Medical Education (MEE), Faculty Affairs (ADF), Research Administration (REA), the Brigade Command (BDE), University Recruitment and Diversity (ORD), Equal Employment Opportunity (EEO), and Equal Opportunity (EO) provided programs and support to assist the University community in its self-development and training requirements. Civilian Human Resources continued to expand the USU Mentor Program by sponsoring 22 participants; both the participants and their mentors received on-going training and guidance throughout 2002. CHR also sponsored the establishment of a University Toastmasters International Club in 1999; active participation continued during 2002 with 32 members. In addition, numerous training opportunities were provided by CHR to the USU civilian workforce that were linked closely with the establishment and expansion of Individual Development Plans. *CHR used 200 training vouchers during 2002 and 60 on-line subscriptions for computer-related training for the Microsoft Office Suite*. Through the use of vouchers, USU faculty and staff were provided opportunities to attend off-site computer classes through CompUSA and New Horizons. USU employees were also provided an on-line computer training option through a USU contract with Element University; on-line training allows the student to complete assignments through the Internet while at home or at work. *A total of 605 employees were trained on-site*, to include the 67 attendees at the Ethics Training Classes, which were conducted by the Office of the USU General Counsel. On-Site Classes provided by CHR included: Coping & Stress

Management (15 participants); Time Management (33 participants); Retirement Planning (22 participants); Proofreading & Grammar Skills (27 participants); Mediation and Conflict Resolution (16 participants); Drug-Free Workplace and Employee Assistance Program (EAP) Orientation for Supervisors (17) and for Employees (58 participants); and, Prevention of Sexual Harassment (350 participants).

USU Faculty Attend Development Courses and Seminars. During 2002, **Cindy C. Wilson, Ph.D., Professor, USU SOM Department of Family Medicine,** coordinated on behalf of her department with the SOM Offices of Faculty Affairs and Medical Education, to sponsor numerous courses and seminars, which strongly supported faculty development at the University. ***During 2002, 320 attendees earned over 810 hours of continuing education*.** The following are selected examples of the successful activities during 2002, which led to the enhancement of the professional skills of the USU faculty members: 1) Office Ergonomics: Creating a Healthy Workplace; 2) How to Captivate the MTV Generation with Your Lectures; 3) Writing for Impact; 4) The Adult Learner, Part I; 5) Learners in Trouble; 6) Giving Successful Presentations; 7) Putting Punch in Your Power Point Presentations; 8) The Quasi-Socratic Method of Seminar Teaching; 9) Critical Reading; and, 10) Managing Clinical References.

Office of Government Ethics Review Finds USU Ethics Program Provides Quality Advice and Counseling Services. The Office of Government Ethics conducts periodic program reviews to evaluate agency ethics programs throughout the Executive Branch of the Federal Government. These reviews are conducted to ensure compliance with *Standards of Ethical Conduct for Employees of the Executive Branch*.

The USU Ethics Program was reviewed in the Fall of 2002 and a report was issued on December 10, 2002. The report highlighted that the University... ***continues to operate a strong and meaningful ethics program*** and provides... ***high quality advice and counseling services***. The report concluded... ***we are pleased to report that the University's Ethics Program continues to comply with applicable ethics laws and regulations***. There were no recommendations for improvement of the USU Ethics Program.

On December 13, 2002, the Office of Government Ethics issued an electronic newsletter, which read in part... ***the University, Congressionally established to train men and women for careers as medical officers in the military services and Public Health Service, faces unique ethics challenges, which it successfully addresses***.

USU Health Center Tobacco Cessation Program. Established during 2002, the USU Health Center Tobacco Cessation Program is a four-session program designed to help individuals to quit using tobacco products. Most individuals requesting tobacco cessation assistance are cigarette smokers, but individuals who use smokeless tobacco (dip or chewing tobacco), pipes, cigars, etc., may enroll in the program. The lead for the USU Tobacco Cessation Program for uniformed personnel is **Major Nicole L. Frazer, Ph.D., USAF, BSC, Assistant Professor, USU SOM Department of Family Medicine, and Director, Clinical Health Psychology**; she can be reached at <*nfrazer@usuhs.mil*>.

The program is based on the guidelines established by the Agency for Health Care Policy and Research (AHCPR; 1996); the Clinical Practice Guideline for Treating Tobacco Use and Dependence (United States Public Health Service; 2000); and, the VHA/DoD Clinical Practice Guideline for Promotion of Tobacco Use Cessation in the Primary Care Setting (2001). The program consists of at least four sessions with the provider including the

enrollment session, the quit date session, and two follow-up sessions. The program is a comprehensive behavioral treatment program that involves behavior modification, stress management skills training, and the use of medications. Six weeks of nicotine replacement therapy involving the nicotine patch are available as part of the program for those participants who are medically qualified. Zyban (buproprion) is also available for eight weeks beginning with the first enrollment session. Individuals must participate in the tobacco cessation program and attend the sessions to obtain the medications. Research indicates that these medications do not work unless combined with a comprehensive behavioral treatment program. A data base has been created so that all participants can be entered and tracked at three, six, and twelve months following their *quit date*. It is conservatively estimated that seven individuals have quit smoking since November of 2002 when the program was initiated. Civilian employees at the University who wish assistance with ending their use of tobacco products may contact the University Environmental Health and Occupational Safety (EHS) staff at <*asorrels@usuhs.mil*>.

OSD Confirmation of USU Title 10 Authority. During Fiscal Years 1997 and 1998, there was a one year suspension on the inclusion of allowances in the calculation of retirement benefits for the USU Administratively Determined (AD) employees (faculty and staff) who are covered under TIAA-CREF, Fidelity, or any other retirement system not established under Title 5 U.S.C. This issue, which involved USU's Title 10 authority, was resolved with OSD through the coordinated efforts of the OSD Office of the Deputy Assistant Secretary for Civilian Personnel Policy, Washington Headquarters Services, the USU President, and the USU Vice President for Administration and Management. As a result, the inclusion of allowances in the calculation of benefits for USU AD employees was reinstated by OSD for Fiscal Year 1999 and has been continued through the present; 2002 and current, OSD-approved, AD salary schedules include footnote references that confirm the reinstatement of this benefit.

Legislative Language Removes the Limits of Executive Level IV for the Annual Rate of Basic Pay. Previously, the annual rate of basic pay for USU AD employees was limited to be no more than the rate set for Executive Level IV. In many cases, this limitation resulted in the need for allowances to bring the total pay up to the limits established by OSD in the USU salary schedules. During the last quarter of Fiscal Year 1998, the OSD Office of the General Counsel, at the request of the Deputy Assistant Secretary for Civilian Personnel Policy, recommended the legislative change contained in Section 1108 of the Conference Report for the National Defense Authorization Act for Fiscal Year 2000. As a result, when the Authorization Bill for Fiscal Year 2000 was signed, it effectively removed the limitations of Level IV for the USU AD employees; *as appropriate, the upper pay limits of the USU AD salary schedules are now limited to the rate set for Executive Level I.* Implementation actions for the reduction of allowances were initiated and implemented during 2000 by CHR and continued, as appropriate, during 2002 to the present.

USU Administratively Determined Salary Schedules Are Approved. Previously, the USU salary schedules for the Administratively Determined (AD) employees had remained the same from 1993 through 1997. To address this concern, a Memorandum of Understanding signed by the OSD Office of Civilian Personnel Management Services (CPMS), the Navy Bureau of Medicine, and the USU President has successfully resulted in the implementation of annual comparability studies by CPMS. These comparability studies, completed in coordination with the USU Civilian Human Resources Directorate and the USU Faculty Senate Comparability

Committee, serve as a critical component in the on-going review, updating, and implementation process for the USU AD salary schedules. As an example of the implementation procedures, when the Principal Deputy Assistant Secretary of Defense (Force Management Policy) approved salary schedules for the USU AD employees on August 25, 1999, an increase in base pay was automatically provided for any AD employees whose base pay was lower than the minimum limits of the new salary scales; this process, based on currently approved salary schedules, has been continued to the present. Updated salary schedules have been continuously approved since 1998 as follows: in July of each year, revised and OSD-approved salary schedules are effective and implemented based on current data and the CPMS comparability studies; then, in January of each year, the salary schedules are adjusted by CPMS to implement the Executive Level I pay level, as required.

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University Recruitment and Diversity.

Implement a comprehensive plan for the recruitment and retention of qualified citizens to become uniformed personnel who will serve our diverse Nation as successful leaders, ready to respond to the Nation's medical and scientific needs during peace and war.

- Mission Statement for the Office of University Recruitment and Diversity, developed during 2001.

Office of University Recruitment and Diversity. The USU Office of Minority Affairs was established in 1991 with a mission to increase the participation and advancement of traditionally underrepresented minority and women students, faculty, and staff at the University. The Office of Minority Affairs, under the initial leadership of **Jeannette E. South-Paul, Colonel, MC, U.S., Vice President for Minority Affairs**, established numerous programs to especially increase the recruitment and retention of underrepresented minorities at the University. Following COL South-Paul's selection to serve as Chair, SOM Department of Family Medicine, **Charles W. Campbell, Jr., Colonel, USAF, MC, FS,** served as the second USU Vice President for Minority Affairs. In April of 1999, **Carolyn L. Miller, Lieutenant Colonel, USAF, BSC,** was selected as the third USU Vice President for Minority Affairs. During 1999, following extensive discussions with the USU President and the Board of Regents, the University's Strategic Plan specifically addressed University recruitment and diversity. Subsequently, during 1999, the Office of Minority Affairs was renamed as the Office of University Recruitment and Minority Affairs; during 2000, strategy sessions to enhance the recruitment efforts of the University resulted in a decision to further modify the office title to the Office of Recruitment and Diversity (ORD). Today, the USU Strategic Plan retains strategies for both marketing the University and targeting the increased recruitment of women and underrepresented minorities. Today, ORD remains committed to increasing the general public's awareness of the University; thus, ORD continues to market the University and introduce military medicine, USU, and the United States Public Health Service to prospective applicants. By the end of 2001, the following areas were included among the numerous program responsibilities of ORD: on-going recruitment efforts; retention and student support activities; community service; and, the USU Post-Baccalaureate Program.

The Year 2002 did not bring significant changes in the ORD-sponsored programs. The ORD Mission continued to direct that the USU student body, to the extent possible, should reflect the gender and ethnic representations as found in the Armed Forces of the United States. Following the departure of LtCol Miller on

July 31, 2002, a change in leadership occurred with the September 26, 2002 announcement by the USU President of his selection of **Cynthia I. Macri, CAPT, MC, USN, Director of the Health Professional Scholarship Program (HPSP), Naval Medical Education and Training Command (NMETC), to serve as the USU Vice President for Recruitment and Diversity.**

USU Liaison Program. USU Alumni participation in the USU Liaison Program continued to evolve and grow during 2002. *The USU Liaison Program involves the recruitment of medical school applicants by USU SOM alumni; these USU alumni serve as superb representatives of the University*. As part of the Liaison Program during 2002, USU alumni made 12 visits to universities, colleges, recruitment fairs, and Reserve Officer Training Corps (ROTC) and Junior ROTC Units. These efforts have resulted in the expansion of USU marketing efforts, the identification of new recruitment opportunities, and an increase in potential applicants. An aggressive recruitment initiative has also been formulated, which targets USU alumni and links them with ROTC units in their areas of assignment. *The alumni liaisons provide guidance and information to potential applicants. To date, USU alumni liaisons have attended recruitment fairs at all colleges and universities from which invitations have been received*. Recruitment opportunities are especially sought at colleges and other well known institutions with student bodies that will help USU to achieve a diverse pool of qualified applicants.

Provision of USU Recruitment Materials. During 2002, ORD, as the centralized office for USU's recruitment efforts, responded to over 600 requests for the continued replenishment of USU materials initially provided in more than 4,500 packets of recruiting materials that were mailed to: Reserve Officer Training Corps (ROTC) Units; military bases (installations and hospital commanders, chief enlisted advisors and education offices); and, pre-medical advisors at the military Service Academies and undergraduate institutions nationwide. Additionally, ORD placed advertisements on USU programs in various undergraduate marketing venues; and, members of the USU community (e.g., faculty, staff, the Board of Regents, external contacts, etc.) were provided, upon request, with recruitment packets (the USU recruitment video, CD-ROM, and USU brochures) for presentations at their hometown educational institutions, professional society meetings, or at various geographical sites while on travel. Throughout 2002, ORD staff responded to continuous inquiries from prospective applicants reference USU's various program requirements. The ORD staff also continued to respond to numerous requests from colleges and universities to promote the military-relevant Graduate Education Programs available at USU.

During the 2001-2002 Academic Year, more than 25 visits were made on behalf of USU recruitment efforts by ORD staff. For example, visits were made to the University of Illinois-Champaign/Urbana; the University of Wisconsin at Milwaukee; Loyola University of Chicago; Xavier University; Dillard University; Louisiana State University; Tulane University; the Great Lakes Naval Training Center; the University of Tennessee; and, Morehouse College. *An estimated 3,000 plus students were introduced to USU at either their respective campuses or at the various career fairs, which they may have attended.* The ORD continues to accept invitations from selective undergraduate schools that will yield the most benefit to the University's search for the most qualified applicants.

Joint Recruitment Venture with HPSP Recruiters. A significant initiative launched during 2001 was centered on a joint venture between USU and the recruitment staffs for the Health Professions Scholarship Program (HPSP). USU representatives attended the October 2001 HPSP TriService Conference; as a result,

three initiatives were agreed upon: a proposed application form that includes both the USU and the HPSP Programs; the referral of USU applicants to the HPSP Program once the USU slots have been filled; and, HPSP links have been added to the USU recruitment web page. One example of the success of this new partnership occurred during the 2001 ORD staff visit to the Annual ROTC Basic Camp Branch Orientation at Fort Knox, Kentucky. USU was invited to join the United States Army and regional HPSP recruitment teams in presenting science and medical career opportunities to more than 1,700 cadets who attended the event. Efforts for the sharing of resources between USU and the HPSP recruitment offices continued throughout 2002. However, this joint venture is now being coordinated by **Mr. Peter Stavish, Assistant Dean, USU Admissions and Academic Records,** who can be reached at <*pstavish@usuhs.mil*>.

Collaborative Participation in Biomedical Research, Medical Education, and Clinical Operations. During 1999, USU and the University of Maryland Eastern Shore (UMES) began a collaborative effort to increase participation by minority students in biomedical research. USU and UMES have agreed to undertake initiatives to: increase the number of UMES undergraduate honor students enrolled in programs leading to a doctorate in the biomedical sciences; aid in the development of a research training infrastructure at UMES; foster the exchange of visiting faculties to conduct graduate seminars at each institution; and, increase the number of minority students enrolled in the graduate programs at USU. The USU Office of the Dean sponsored six students from UMES during the Summer of 2000. Those six students and one faculty member from UMES were able to participate in on-going research projects in various USU laboratories; the experience was a positive one for both the UMES personnel and USU. The program continued throughout 2002; however, the USU and UMES faculties and students were not able to participate in any new initiatives mostly due to a reduction in funding at UMES. ORD and UMES officials will meet to identify initiatives that can be undertaken with limited funding.

During October of 2001, an academic affiliation agreement was completed between USU and Franklin & Marshall (F&M) College. The agreement allows F&M pre-med students to participate in a *shadowing program* at USU and the local teaching hospitals. Under the agreement, USU will give F&M students access to USU faculty members, facilities, and medical student training and instruction. They will also observe clinical operations at the National Naval Medical Center, the Walter Reed Army Medical Center, and the Malcolm Grow United States Air Force Medical Center at Andrews Air Force Base. There is no monetary compensation or logistical support responsibility requirement for USU or the medical centers; the students will be registered as hospital volunteers. This agreement will allow USU to more effectively market the SOM to prospective applicants and increase awareness about the University. It will also increase familiarity and appreciation for military medicine, while exposing the University to a broader population of medical school applicants. During 2002, ORD staff visited the Franklin & Marshall campus to meet with officials and students; once Franklin & Marshall identifies resources to finance the effort, the program will be implemented.

Electronic Recruitment. The USU recruitment web page is currently undergoing extensive revision. As part of the HPSP recruitment venture, HPSP links for each of the Uniformed Services have been added to the USU recruitment page. The USU web site lists Federal, national, and some regional summer experiences for medical school applicants. Also, a map of the United States has been added to the web site, which includes USU SOM student photos and biographies, designates their respective states, and references their undergraduate institutions. ORD has tentatively hired a University of Maryland student worker who will work part-time in the office; the student worker's sole function will be to develop a new ORD web page and to keep it current with new USU policies and changes relevant to recruitment and the University.

USU Post-Baccalaureate Program. The University began its one-year Post-Baccalaureate Program on August 9, 1999; three individuals were accepted into the Program during 2001; and, two were accepted during 2002. The Program is modeled after current civilian post-baccalaureate programs, while maintaining compliance with Federal laws and restrictions. The Program is much like those presented in the Service Academy Preparatory Schools. Through the Program, USU identifies students who would benefit from a year of medical school curriculum; if the Program students excel in the selected first-year medical school courses, which are taken along with the first-year USU SOM students, they are then allowed to reapply for admission to the medical school. Students considered for the Program must meet the same admissions criteria, physical and security standards required of all USU medical school applicants prior to matriculation. *The goal of the Program is to increase representation at USU of economically or educationally disadvantaged students and to especially include current active duty enlisted and commissioned officers.* The students who entered the Program during 1999, 2001, and 2002 were fully accepted by the USU SOM and are currently enrolled in the USU School of Medicine. The Program includes the first United States Public Health Service SOM students since 1995. The Program students are performing well academically with graduation dates of 2004, 2005, and 2006, respectively. ORD prepared documentation to justify the Program as a permanent USU program, to include manpower billets and funding; the documentation was submitted to the USU Executive Committee for review during 2001; USU technology transfer funding has financed stipends for each of the trial years. During 2002, the USU Admissions Office, the USU Office of the General Counsel, and the ORD staff worked together to ensure that no preferential criteria were used in the USU selection process. Current decisions by the United States Supreme Court should not have a negative impact on the Program or the USU criteria for admission.

Community Involvement and Student Support Programs. Members of the USU Student National Medical Association (SNMA) Chapter and Women in Medicine and Science (WIMS) sponsored meetings and activities throughout 2002. Dinner socials provided SNMA and WIMS members with an opportunity to socialize and network with faculty and physicians in a relaxed atmosphere and to discuss significant issues such as residency selections, physician and patient expectations, professional demands in the military setting, effective time management, stress management, and societal minority and gender issues.

During 2002, the USU medical students continued their weekly and/or monthly trips to public schools to discuss medicine and the medical profession with the public school students through a community outreach program entitled ***the Youth Science Enrichment Program (YSEP),*** which is designed to motivate American youth toward medical, scientific, and military careers. The objective of the visits by the USU students is to strengthen the *educational pipeline* between public schools and advanced education, and to especially encourage careers in uniformed medicine. The USU students familiarized the public school students with such topics as the human skeleton, first-aid care, to include bandaging and braces, and medical triage based on the severity of injuries and potential scenarios. The students are divided into teams of two and each team prepares a classroom presentation. During 2002, specific topics included health maintenance (brushing teeth, etc.), personal safety (wearing seat belts and bike helmets), preventative measures (hazards of smoking and drug abuse), and environmental awareness (insects and reptiles). Additionally, the Youth Science Enrichment Program (YSEP) Committee, under the leadership of the USU SNMA, is coordinating community support for the Washington, D.C. Public Schools through visits and seminar presentations. The USU YSEP is committed to serving as a role model for young Americans and to establishing a lasting and positive impact on the young, public school students within the neighboring communities.

The ***USU Asian Pacific American Medical Students Association (APAMSA)*** is a student organization that was initiated under the sponsorship of ORD during 2001 and functioned throughout 2002. The APAMSA, founded in 1995, represents over 16,000 Asian Pacific American medical students; the organization serves as an advocate for the advancement of quality medical care for the growing Asian Pacific community. The USU APAMSA initiated several successful projects during 2002 with the Johns Hopkins University School of Medicine APAMSA Chapter, to include: a *back-to-school social* with the George Washington University and Georgetown University APAMSA Chapters; a *lecture on stress* providing techniques for addressing their common concerns; a *lottery night* to prepare for the third-year clerkships; and, a *winter celebration* event. During the past year, ORD identified faculty mentors for the three major student organizations. And, ORD sponsored the annual 2002 Award Luncheon for members of APAMSA, SNMA, and WIMS who contributed to their respective organizations in an exemplary manner; members of the USU Board of Regents, the USU President, and the Dean, SOM, normally attend.

The Helping Hands Project.

Four days a week, USU medical students and USU physicians continue to find time to provide family health care to low-income families in the Washington D.C. metropolitan area, citizens who would not otherwise have access to medical treatment.

- Office of University Recruitment and Diversity, *Update on Community Support Activities*, dated February 2002.

Each week, USU medical students and USU physicians find time to serve in free clinics and to help provide medical care to low-income families in the Washington D.C. Metropolitan Area. These are citizens who would not otherwise have access to medical treatment. This community free medical care occurs through the student-led ***Helping Hands Project*** volunteer program. The Project includes three clinics located in Maryland that are sponsored by the Mobile Medical Care, Inc. The clinics are located at the KenGar First Baptist Church in Kensington; the Shepherds Table at the First Baptist Church of Silver Spring; and, the Adventist Community Center in Takoma Park. The three clinics provide services such as physical examinations, laboratory analysis, the management of acute and chronic diseases, mental health problems, general health concerns, and referrals for X-ray examinations and specialty and secondary care.

The mission of the Project is to ensure that people receive stable family health care when they would otherwise be unable to afford it. The students continue to uphold the standards of the mission; *no one is turned away*. The USU students become acquainted with available community resources and learn of the health care needs of a diverse population of patients. USU students take patient histories and present them to physicians; they assist in examinations; and, in general, observe the attending doctors. The patients are treated for chronic problems such as hypertension, depression, arthritis, and diabetes; the students also observe the care provided to acute-care patients. Depending on the clinic, students assist with six to fifteen patients during their three-hour shifts. *Mobile Medical Care Inc. has been so pleased with the performance of the USU students, that a request was made for the students to volunteer four, as opposed to two, days per week*. Student volunteers are exposed to people from different backgrounds who have varying requirements, with limited ability to pay for health care services. The Helping Hands Project developed into the current program largely due to the vision of a student

organizer, **Raymond J. Legenza, a 1996 USU SOM Graduate**. The Office of Recruitment and Diversity takes great pride in sponsoring this program; the essential physician support is volunteered by the exceptional faculty of the USU SOM Department of Family Medicine. *Helping Hands* has become a significant USU program; it encourages a meaningful contribution of essential health care by USU faculty and students to their neighboring communities. And, it provides a tremendous experience for the USU students.

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The Office of the Brigade Commander. The USU Brigade Commander is recognized as *the senior active duty officer* of the University and reports directly to the President of USU. It is the responsibility of the Brigade Commander to ensure that the uniformed personnel assigned to the University adhere to the appropriate service specific standards set by their parent Services. In addition, the Brigade Commander assures that the interests of the military members assigned to the University are addressed and that they remain competitive for promotion with their service peers. Under the leadership of the Brigade Commander, the uniformed students, faculty, and staff assigned and reporting to the School of Medicine (SOM), the Graduate School of Nursing (GSN), the Graduate Education Programs, or other USU activities, programs or divisions must participate in all activities and events as they would in any other command of the Uniformed Services. Regular formations are held; physical fitness exercises, standards, and testing are adhered to; performance evaluations are completed and rated; and, uniformed personnel are trained in the appropriate uniformed programs and customs.

A Multi-Service Environment. The USU Brigade provides a clear chain-of-command for all uniformed members, thus allowing individuals to rapidly assimilate into their new units and the multi-service environment of USU. The Brigade Command structure includes a designated Commandant for both the SOM and the GSN. The SOM has three company commanders representing the Army, Navy, and the Air Force; they are specifically assigned to USU to provide for military training in officership and leadership. A United States Public Health Service officer is also responsible for providing this special training to the Public Health Service students. The company commanders are mentors for the students and they deploy with them during each of the University's field training exercises. The USU uniformed faculty and staff also conduct service-unique and combined inspections and military formations. Similar to the Service Academies, each student class also has its own military command leadership structure. The students rotate positions among the class members, which increases individual exposure in the management of specific assignments, duties, and *command* roles. Tactical senior medical non-commissioned officers are also assigned to each student company to provide mentorship and to assist the company commanders with officership training.

Establishment of the Office of the USU Chaplain. In July of 1999, the Navy Surgeon General approved the resourcing of billets for a Navy chaplain and an enlisted assistant at the DoD joint command of USU. The arrival of the chaplain and his assistant as *the first permanently assigned ministry team at USU* filled a void in pastoral care that had existed since the foundation of the University. Following the establishment of the Office of the USU Chaplain within the Brigade Command, essential counseling and guidance is now available and provided to the USU students and assigned staff.

The mission of the Office of the USU Chaplain is to support and enhance the quality of life of the USU military personnel, to include their families, through spiritual development, as needs are identified and requested. The Office facilitates the free exercise of religion for USU military personnel and their families. Chaplain ministry is needs-based, performed cooperatively, and executed within a pluralistic environment. Faith-specific Student Associations are formed as needs are identified. USU faculty and staff are encouraged to participate in the Student Association of their choice and to support and/or mentor the students in their spiritual formation in a similar manner as guidance is provided for the development of academic skills. Within regulations under the University President and the Brigade Commander, and administered by the Office of the Chaplain, the Student Associations are self-governed to meet the specific needs and interests of their constituents. The areas of Ministry are: 1) Pastoral Care (to include prayer, scriptures, insight, listening, encouragement, and support); 2) Pastoral Counseling (provision of individual, marriage and family counseling on moral, ethical, emotional, spiritual, or faith issues); 3) Pastoral Visitation (ministry of presence at the University, visitation of the hospitalized and confined, pre-operative prayer or counseling, as requested); 4) Spiritual Direction (integration and guidance provided to an individual for spiritual development); 5) Observance of Religious Rites (religious observances, command functions, memorial services and social activities); 6) Classes and Seminars (discussions in the areas of value formation, ethical decision-making, bioethics, and faith-related topics); 7) Literature Ministry (provision of devotional, inspirational, and self-help literature); 8) E-Mail (communication of the thought for the day and weekly inspirational thoughts); 9) Referral Service (assistance in locating a place of worship, military or civilian, and counseling referrals for requested guidance outside of the Chaplain's expertise); and, 10) Field Exercises (provide worship services, training, and ministry in the field environment for students and staff).

Development of International Relationships. In the Fall of 2000, the USU Brigade Commander initiated a dialogue with the Commander, German Armed Forces Command, United States and Canada, which resulted in the establishment of the German Troop Duty Proficiency Badge Program at USU, making the University the first United States Armed Forces medical organization in the Military District of Washington to gain sponsorship from the German Armed Forces Command for this program.

The program provides USU students and faculty with an opportunity to compete for, and attain, the prestigious German Troop Duty Proficiency Badge, which recognizes excellence in both physical fitness and readiness. Besides being a foreign badge, the award is unique because it is strictly based on the abilities of each participant and not dependent on the decision of an awards board. Facilities and logistics for the USU program involve strong community relations with agencies and personnel outside of the University, including the Walt Whitman High School at Fort Meade, Maryland, and the National Naval Medical Center in Bethesda, Maryland.

In order to earn the badge, individuals must achieve minimum standards involving times and distances while qualifying in the following events: shot put; long jump; sprint (75 meters for women; 100 meters for men); swim (200 meters); marksmanship (9 millimeter pistol); long distance run (2,000 meters for women; 3,000 meters for men); and, a road march (distances range from 20 to 30 kilometers, depending on age, sex, and type of badge - *bronze, silver, or gold* - that the participant is qualifying for). Participants must also be in good standing with the University/Brigade and pass a first-aid course. There are two main road marches each year, followed by an awards ceremony; the US/GE Day is hosted by the Military District of Washington during the Spring; and, the GE/US Day is hosted by the German Armed Forces Command during the Fall.

Upon successful completion of all events, each participant is presented a certificate and badge by the German Armed Forces Commander. Participants may then provide their USU Unit Awards and Decorations Representatives with a copy of their certificates, which are then forwarded to their respective Service Major

Command Personnel Centers for inclusion in their permanent military records. Army personnel are authorized to wear this badge on their service dress uniforms; Air Force personnel may wear the badge on their service dress uniforms, but only while in Germany (the host nation); Navy personnel are not authorized to wear the badge. During 2002, the actual qualification time of each participant was reduced from three months to less than two months. ***Nearly 100 USU medical students and faculty members were awarded the German Troop Duty Proficiency Badge during 2002.***

Assurance of Operational Skills. The Brigade's Operations Department provides the planning, coordination, and logistical support for the USU military field training exercises for the first and fourth-year medical students. The development of plans continued during 2002 for the major exercises at the University: 1) January 22-26, 2002 - **Operation Bushmaster III-02** at Camp Bullis, Texas; 2) June 24 - June 28, 2002 - **Operation Kirkesner** at the Marine Corps Base at Quantico, Virginia; 3) September 14-21, 2002 - **Operation Bushmaster IX-02** at Camp Bullis, Texas; and, 4) November 9-16, 2002 - **Operation Bushmaster XI-02** at Camp Bullis, Texas. Through training such as Operations Kirkesner and Bushmaster, USU encourages each uniformed student to develop and maintain the special skills required to earn a leadership position in military medicine (these events are further described in Section II).

During the Summer of 2002, the USU Brigade Commander reported that the second year medical students had participated in the following activities: **Army** - U.S. Army Airborne School; Mountain Warfare School; clerkships at the Army Surgeon General's Office; Operational Emergency Medical Skills Course; Expert Field Medical Badge; and, USA Operational Units (e.g., Fort Bragg, Fort McCoy, Fort Carson, Fort Riley, and Vicenza, Italy); **Navy** - Diving School; Aerospace Medicine (USS Roosevelt); USN SEALS; Top Gun; Mountain Warfare Training; Amphibious Warfare School; Neuroanatomy Computing; USNS Mercy Hospital Ship; the USN Special Warfare Detachment; Tropical Medicine Course, Brazil; and, Sigonella, Italy; **Air Force** - Operational Emergency Medical Skills; Top Knife; Expert Field Medical Badge; Mountain Warfare School; and, USAF Hospitals and Research. From qualifying for the Expert Field Medical Badge to conducting undersea medical research with the United States Navy SEALS, USU students are developing and maintaining the special skills required to assume leadership positions in uniformed medicine. Additionally, the diverse and exciting training USU students complete during summer training helps the University to accomplish Strategy 6.4.2 of the USU Strategic Plan: *USU faculty, staff, students, and alumni, both on-site and off-site, will be provided information relevant to their career enhancement, mission, and interests.*

The Brigade Headquarters Company is the enlisted Brigade Command support element for USU and is commanded by the only Marine assigned to the University. In addition to the performance of their military occupation specialties during normal duty hours, the enlisted members of the Headquarters Company ensure that equipment, supplies, transportation, and personnel are positioned to accomplish all major field exercises each year. The Brigade is responsible for ensuring that the enlisted personnel at USU are proficient in their operational support skills, which enable them to remain competitive for promotion.

Orientation Responsibilities. Another responsibility of the Brigade, during the first quarter of each Academic Year, includes the in-processing requirements for all uniformed students, whether they are matriculating into the SOM, GSN, or the Graduate Education Programs in the SOM. In the case of the first-year medical students for Academic Year 2002, Brigade letters were issued to the incoming students to include a detailed

calendar of events outlining their in-processing week. This increased level of detail facilitates the orientation process and eliminates students' concerns over appropriate uniform, classroom, and Brigade requirements. The military aspects of the USU were stressed during the first week, as well as the students' responsibilities in their primary role as military officers.

Recruitment Efforts for Underrepresented Communities. The Brigade continued to reach out to the ROTC and underrepresented communities during 2002. The Brigade's recruitment efforts during 2002 included presentations on the value of a USU medical education at the following universities: the University of Arkansas at Little Rock; the University of Westminster, Missouri; and, the University of Mississippi. The membership of **Charles S. Serio, Colonel, MS, USA, USU Brigade Commander,** on the Medical Advisory Selection Committee at West Point continues to give USU exposure to some of the top military academy students in the country.

USU Color Guard. Formal ceremonies have continued to be an important element of military tradition since the earliest armies and navies entered combat. Whether at a retirement, change-of-command, or a unit stand-up, the military goes to great lengths to showcase its command, its people, and its pride in the Nation. Color guards have long been an important part of these ceremonies, and USU is carrying on that tradition, forming its own color guard in 1997. The USU Color Guard is comprised of enlisted members (E-5 and below) from the Army, Navy, and the Air Force. The first major performance of the USU Color Guard occurred at the 1997 USU Graduation; the colors were also presented during the USU Brigade Change-of-Command Ceremony in 1998 and the Headquarters Company Change-of-Command Ceremony in August of 2001. This year, the USU Color Guard also had the opportunity to represent the University and the military at the opening of major sporting events in the local area. During the May graduations from 1998 through 2002, the USU Color Guard brought the colors on stage during the commencement ceremonies, which were held at the National Society of Daughters of the American Revolution Constitution Hall in Washington, D.C. And, during 2002, the USU Color Guard performed at the annual *USU Dining-In* ceremony.

Officer Indoctrination Training of USU Matriculants. Formal studies were conducted during 2001-2002 to assess the value of conducting a basic officer indoctrination course on the USU campus for all Army, Navy, and Air Force matriculants to the USU SOM. At the present time, the Surgeons General spend approximately $500,000 per year to transport and house USU non-prior-service Navy and Air Force matriculants and all of the USU Army matriculants so that they can attend their service-specific officer indoctrination courses prior to their arrival at USU. Because of the time constraints that occur due to the timing of college graduation, the notice of final acceptance by USU Admissions, and the receipt of official military orders, some of the USU matriculants have been unable to attend these courses prior to their arrival at USU. Due to the USU requirements for military training during the Summer following the first year of medical school, it is almost impossible for those students who miss their indoctrination courses to make them up without impacting on their medical education requirements. The Brigade currently proposes to investigate the efficiency of having all USU matriculants attend a USU TriService Indoctrination Course to be held at USU during July and August prior to the Brigade orientation and class initiation activities. Topic sessions, which are applicable to all Services, would be held in a large lecture room, while service-specific topic sessions would be held in smaller USU classrooms. Faculty from USU could be augmented with temporarily assigned instructors as required by each of the present course coordinators. Incoming

students would no longer be required to travel elsewhere prior to their arrival at USU, which would accommodate the location of housing for themselves and their families prior to course commencement. Although cost-savings would be partially offset by the temporary travel and housing for the visiting faculty, the overall savings would still be significant. In addition, each incoming class would have the opportunity to develop a strong sense of *esprit de corps* prior to the beginning of classes. This effort would fall under Strategy 6.4.2. of the 2002 USU Strategic Plan, since USU would be providing an additional level of military educational training specifically for the USU SOM students. Goal 3 of the USU Strategic Plan, *we will optimize resources to efficiently and effectively implement USU core capabilities*, supports the proposed USU effort to coordinate with each of the Services to generate cost-effectiveness for the administrative and financial aspects of the current process for USU SOM student indoctrination.

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Goal 6 of the 2002 USU Strategic Plan includes a requirement for the University to establish an enhanced sense of intramural community. The Combined Federal Campaign is one event which crosses all boundaries within the University and unifies the entire USU community through a common goal of sharing with those who are in need, either in our own community, or on a global scale.

USU Exceeds Established Goals for the Combined Federal Campaign. From 1997 through 2002, the University has reached its Combined Federal Campaign (CFC) goal due to the tremendous efforts and coordination of the Office of the USU Brigade Commander. Under the leadership of the USU Campaign Managers, the total contributions reached over $167,600. Approximately 74 percent of the USU staff, students, and faculty contributed to the Year 2002 Campaign for worthy community, national, and world charities. ***The Year 2002 marks the sixth consecutive year in which the University exceeded its goal.***

USU also earned the 2002 CFC Chairman's Award for attaining 100.4 % of its goal of $167,000. In doing so, USU had a total of 63 Eagle donors (51 single Eagles with contributions representing at least one percent of the employee's salary; and, 12 double Eagles with contributions representing at least two percent of the employee's salary). In addition, the University was able to announce on January 2, 2003, that USU had won First Place in the Best Goal Poster Category of the DoD CFC Communications Contest. **Technical Sergeant Waverly Johnson, USAF, USU Audio Visual Center,** created the winning entry. His poster, entitled *Walk a Mile in Their Shoes*, was displayed in the lobby entrance area of Packard Hall (Building A). Sergeant Johnson's poster was entered by DoD into the National Capital Area CFC Communications Contest where it will compete against entries from all of the Federal Departments.

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UNIVERSITY HONORARY DEGREES, AWARDS AND RECOGNITION

The public understands the unique roles and values of the Uniformed Services University.

- Goal One, Objective 1.1.1, USU Strategic Plan, 2002.

The University Has Granted a Total of 29 Honorary Degrees Since its Establishment. Since the first Honorary Degree that was granted in 1991, through April of 2003, a total of 29 recipients have been selected. The Honorary Degree recognizes individuals who have demonstrated outstanding support for the Military Health System and/or the Uniformed Services University of the Health Sciences.

Honorary Degree Recipients:

1991 **Jay Sanford, M.D., Third President of the University and first Dean of the School of Medicine,** recognized as a major participant in the establishment and early leadership of the University;

1992 **Harry C. Holloway, M.D., Professor, USU Department of Psychiatry, and Deputy Dean from 1990 through June 1992,** recognized for unwavering support during a transitional period;

1993 **The Honorable Daniel K. Inouye, United States Senator from Hawaii, Senate Appropriations Committee,** recognized for continuous leadership and support for Military Medicine and the University as one of the original members of the Congress who supported the establishment of the University;

1994 **Mr. Zachary Fisher, Champion of the Armed Forces,** recognized for his founding of the Intrepid Museum, the Fisher House Foundation, the Fisher Armed Services Foundation, and his tremendous support for both Military Medicine and the University;

The Honorable David Packard, Former Deputy Secretary of Defense, first Chairman of the USU Board of Regents, and Acting President of USU from 1976 to 1981, recognized for his oversight during the original construction of the USU campus and his constant support for Military Medicine and the University from its establishment in 1972, until his death in 1996;

1995 **The Honorable Sam Nixon, M.D., Former Chairman of the USU Board of Regents and Founder of the USU Tradition of the Mace** for the University Commencement Ceremonies, recognized for his dedication to Military Medicine and the superb leadership he provided to the University;

Frank Reynolds, M.D., Internationally recognized throughout the practice of civilian medicine and for his continuous support and interest in both Military Medicine and the University; he was also the commencement speaker during the 1995 Commencement Ceremonies;

The Honorable Strom Thurmond, United States Senator from South Carolina, Chairman, Senate Armed Services Committee, recognized for continuous leadership and support for Military Medicine and the University and as one of the original members of the Congress who supported the establishment of the University;

1996 **Michael E. DeBakey, M.D., Renowned Surgeon who has been recognized by numerous Presidents of the United States** and leaders of many nations for his knowledge of medicine and his unwavering support for Military Medicine and the University;

The Honorable Melvin R. Laird, Former Secretary of Defense and continuous supporter of Military Medicine and the University, recognized for his provision of essential guidance and support since the establishment of USU;

Francis D. Moore, M.D., Internationally recognized as a distinguished Surgeon and supporter of Military Medicine and for his consistent support to the educational programs within the University;

1997 **Donald L. Custis, M.D., Vice Admiral (Retired), Former Surgeon General of the United States Navy,** recognized for his career of dedicated service to Military Medicine and consistent support for the University;

The Honorable C. Everett Koop, M.D., Former Surgeon General of the United States and Member of the USU Board of Regents, recognized for his consistent support for Uniformed Medicine and the University;

The Honorable Constance Morella, Member of the United States House of Representatives from the State of Maryland, recognized for her outstanding dedication to quality health care, medical research and technology, and for her unwavering support for the University;

President Ronald W. Reagan, President of the United States from 1980 through 1988, recognized for his dedication to the welfare of the Armed Forces, Military Medicine, and the University;

1998 **General Charles Krulak, Commandant, United States Marine Corps,** recognized for his outstanding support for Military Medicine and for the welfare of the University; he presented the commencement address during the 1998 Commencement Ceremonies;

Joshua Lederberg, Ph.D., Nobel Laureate and Internationally Recognized as a Leader in Medicine and for his participation in, and support of, University activities and programs;

V. M. Rexroad, Brigadier General, United States Air Force, recognized as one of the original supporters of the University and for his dedication to Military Medicine and long-term dedication to the welfare of the University from its establishment until his death in 2002;

David C. Sabiston, Jr. M.D., Internationally Recognized throughout the Civilian Practice of Medicine for his dedication and support of Military Medicine in general and for his unwavering support for the University;

1999 **Oliver H. Beahrs, M.D., Professor of Surgery, Emeritus, Mayo Medical School, Past President of the American College of Surgeons,** recognized for his continuous support for Military Medicine in general and for his on-going and dedicated support for the University;

Sheila Burke, Executive Dean, Lecturer in Public Policy, John F. Kennedy School of Government, Harvard University, Former Chief of Staff, Office of the Republican Leader, United States Senate, from 1986 to 1996, recognized for her dedication to Military Medicine and the University;

The Honorable Paul S. Sarbanes, United States Senator from Maryland, recognized for his unwavering support of, and dedication to, essential legislation for both the Military Health System and the University;

2000 **The Honorable William S. Cohen, Secretary of Defense,** recognized for his outstanding support and dedication to Military Medicine and to the welfare of the University;

2001 **The Honorable Robert J. Dole, Former United States Senator from Kansas and Senate Majority Leader,** recognized for his tremendous history of service to his Nation during War and Peace and for his commitment to the health care of the Armed Forces and to the University;

Val G. Hemming, M.D., Professor and Dean Emeritus, USU School of Medicine, recognized for his dedicated and outstanding service to the Nation, which began in 1965 through his retirement in 2002; his sincere and successful leadership resulted in tremendous acclaim for the University from the Department of Defense and the United States Congress;

The Honorable Theodore F. Stevens, United States Senator from Alaska and Chairman of the Senate Appropriations Committee, recognized for his great dedication to the Nation and the health care of the Armed Forces and the continuation of the University;

2002 **Faye Glenn Abdellah, Ed.D., Sc.D., RN, FAAN, Professor and Dean Emerita, USU Graduate School of Nursing,** recognized as a nurse, educator, researcher, an internationally acclaimed leader, and the Founding Dean of the newly established and accredited Graduate School of Nursing (description follows);

F. William Blaisdell, M.D., Professor of Surgery, UCD, and Chief of Surgical Services, Sacramento, VA Medical Center, recognized as a physician, researcher, and scholar, for a lifetime of service to the cause of medicine, and as a friend of military medicine and USU (description follows); and,

The Honorable Lonnie R. Bristow, M.D., Past President of the American Medical Association and Chairman of the USU Board of Regents, recognized as a driving force in the American Medical Association and for the initiation of a ground-breaking project in performance measures to determine the success of USU students and graduates (description follows).

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Three Honorary Degrees Recognized During the 2002 Commencement Ceremonies.

Faye Glenn Abdellah, Ed.D., Sc.D., RN, FAAN, Professor and Dean Emerita, USU Graduate School of Nursing, received the Doctor of Science in Military Nursing, *Honoris Causa*, during the 2002 Commencement Ceremonies at Constitution Hall on May 18, 2002. Dean Abdellah served as Acting Dean during the establishment of the Graduate School of Nursing (GSN) from 1993, until her selection as Founding Dean on May 17, 1996. She held this position until her retirement on May 31, 2002. Recognized internationally for her public service in nursing, education and health care, prior to her selection as Dean, she was the Chief Nurse Officer and Deputy Surgeon General of the United States Public Health Service. The recipient of 90 professional and academic honors and twelve honorary degrees, Dean Abdellah is recognized as a national pioneer in nursing research and long-term care policy, mental retardation, the developmentally disabled, home health services, aging, hospice and AIDS. Doctor Abdellah was actively involved in working with the Surgeon General of the United States in the formation of national health policies related to AIDS, drug addiction, violence, smoking, and alcoholism. The author, or co-author of more than 152 publications, some translated into six languages, Dean Abdellah developed the first nationally tested coronary care unit, saving thousands of lives. She also designed the first Federal training program for health services researchers, health services administrators and geriatric nurse practitioners. Her innovative work as a nurse researcher altered modern theory and practice. In recognition of these accomplishments, she was inducted into the National Woman's Hall of Fame during 2000. Before her retirement in 2002, Dean Abdellah received notification of accreditation for the GSN from both the National League for Nursing (NLN) Accrediting Commission and the Commission on Collegiate Nursing Education (CCNE) for the maximum terms of 8 and 10 years, respectively. Both accrediting entities recognized the GSN for its cutting-edge programs and as a model in advanced nursing education, practice, and scholarship.

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F. William Blaisdell, M.D., Professor of Surgery, UCD, and Chief of Surgical Services, Sacramento, VA Medical Center, received the Doctor of Military Medicine and Surgery, *Honoris Causa*, during the USU 2002 Commencement Ceremonies. In 1978, Doctor Blaisdell assumed the role of Chairman, Department of Surgery, at the University of California Davis. He brought with him experience as: Chief of Surgery, VA Hospital San Francisco; Chief of Surgery, San Francisco General Hospital; and, Professor of Surgery, University of California, San Francisco. He was instrumental in developing the UCD Department of Surgery, and he also founded one of the country's first Trauma Programs - the forerunner of Trauma Centers in the United States. He currently holds the position of Professor of Surgery, UCD; and, is the Chief of Surgical Services at the Sacramento VA Medical Center. He is Board Certified in General Surgery, Thoracic Surgery, Vascular Surgery, and in Surgical Critical Care. Doctor Blaisdell travels worldwide, speaking at conferences and symposiums. He is a published author of historical and medical information. His clinical research includes: Shock, Organ Failure Syndrome; Coagulopathies following injury and major surgery; and, Vascular Surgery Principles including the first extra-anatomical bypass procedures. And, he was elected to preside over the USU Surgical Associates during 2000-2001. Known as the *Friend of Military Medicine*, he has devoted countless hours to the development of USU, the education of uniformed medical students, the practice of medicine, and caring for his patients.

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The Honorable Lonnie R. Bristow, M.D., Past President of the American Medical Association and Chairman of the USU Board of Regents, received the Doctor of Military Medicine, *Honoris Causa*, at the USU Commencement during 2002. The Honorable Lonnie R. Bristow was appointed as Chairman of the USU Board of Regents by the President of the United States and confirmed by the United States Senate in June of 1996. He held that position until September of 2001. Doctor Bristow is a well-recognized spokesman concerning important public health issues and the improvement of the Nation's health policy. Doctor Bristow has had broad experience throughout many levels of organized medicine. He was the President of the California Society of Internal Medicine and President of the American Society of Internal Medicine. In 1977, he was elected to membership in the Institute of Medicine (IOM) of the National Academy of Sciences. He also contributed to the IOM's landmark report, *To Err is Human*, which focused on medical errors in American hospitals and put the need for systemic change on the national health policy agenda. He has been on the American Medical Association's Board of Trustees since 1985, serving as its Chair from 1993 to 1994, and as a member of the Executive Committee from 1990 through 1997. Doctor Bristow was President-Elect of the American Medical Association in 1994 and subsequently served as President before coming to USU. Doctor Bristow brought his Naval submarine service experience and a lifetime of dedicated medical experience to his appointment as Chairman of the USU Board of Regents. His commitment to improving the Nation's health is illustrated by his untiring efforts to keep young people tobacco-free and his emphasis on drug treatment and prevention. As the Chairman of the Board of Regents, he engaged the USU community in intellectual discussions across the full spectrum of medical education. Doctor Bristow's inclusive style of leadership encouraged and challenged Board members and the USU staff toward helping the University achieve its vision; and, he championed USU's efforts to recruit underrepresented minority students and faculty.

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The University Medal.

Background. The University Medal is one of the University's highest honors. It was created in 1999, to pay tribute to deserving alumni, staff, and faculty members, friends and supporters of the University, its schools, programs, and mission. The recipients are recognized for professional or academic success or public service. Receipt of the University Medal is by endorsement and recommendation of the USU Committee for Names and Honors, submitted through the USU President, with the approval of the USU Board of Regents.

The University Medal, molded from silver, displays the University Seal on the front side; the medal's number, recipient's name, and the award date are engraved on the reverse side. 2002 marked the third annual presentation of the University Medal during the USU Commencement Ceremonies. As of April 2003, a total of 15 individuals have received the University Medal.

University Medal Recipients:

1999 **Lieutenant General Ronald Blanck, Surgeon General of the Army,** received the first University Medal at the November 1, 1999 Meeting of the Board of Regents. As Surgeon General, he served as a member and Chair of the USU Executive Committee; he was also the Assistant Dean of Student Affairs at USU from 1976 through 1979;

2000 **David O. Cooke, Director of Administration and Management, Office of the Secretary of Defense,** was awarded the University Medal during the USU Commencement Ceremonies on May 20, 2000, in recognition of his long-term service in the Office of the Secretary of Defense (OSD). From 1957 until his death in 2002, Mr. Cooke provided continuous support and administrative guidance for Military Medicine and the University;

Rear Admiral Michael L. Cowan, MC, USN, Chief of Staff for the Assistant Secretary of Defense for Health Affairs (and later Surgeon General of the Navy), received the University Medal in recognition of thirty years of dedicated service in support of Military Medicine and the University. Admiral Cowan received the University Medal during the USU Commencement Ceremonies on May 20, 2000, following his presentation of the Commencement Address;

Jeffrey R. Swope, Director, USU Audio Visual Center, upon his retirement from public service, was recognized for his leadership in the establishment of the University Audio Visual Center during 1977 and for his 23 years of continuous dedication and unwavering support to the USU community. The University Medal was presented on May 20, 2000, during the USU Commencement Ceremonies;

2001

Lieutenant Colonel Yvonne Andejeski, MC, USA, USU SOM Class of 1983, completed a residency in radiation oncology; she was board-certified in 1987 and was active in patient care and research. She served as the Acting Chief of Radiation Oncology at the National Naval Medical Center and as the Chief of Radiation Oncology at the Walter Reed Army Medical Center, as well as the Radiation Oncology Consultant to the Surgeon General of the Army. In addition to serving as the Program Manager for a congressionally-directed $240 million breast cancer research program, in 1998, she co-designed and co-managed the development of the DoD Breast Cancer Treatment Guidelines using a TriService, multi-specialty panel of oncologic, surgical, and primary care and psycho-social clinicians. Following her own diagnosis of breast cancer in 1994, she selflessly continued her work through the Spring of 2001, when she retired from the Army and assumed a position at the National Cancer Institute. On March 31, 2001, during a retirement party in Doctor Andejeski's honor, Doctor Lee Poth presented the University Medal, on behalf of the University, in recognition of LTC Andejeski's significant contributions to research, medicine, the military, and the University. Doctor Andejeski died in October of 2001;

Gerald W. Fischer, M.D., Colonel, MC, USA (Retired), received his commission in the United States Army in 1971, and began his pediatric training at the Madigan Army Medical Center, followed by an Infectious Disease Fellowship at the Tripler Army Medical Center. After arriving at USU in 1977, he earned the faculty rank of professor within four years. During his twenty-year tenure in the USU Department of Pediatrics, he held numerous positions of importance. He is a superb clinician who has trained numerous military physicians as fellows in his specialty. His scientific career has been quite successful, earning both national and international recognition; he has also founded his own biotechnology company, Biosynexus. The University Medal was presented on May 19, 2001, during the 2001 Commencement Ceremonies;

Connie Mariano, Rear Admiral, MC, USN, USU SOM Class of 1981, the first USU SOM Graduate to be promoted to 0-7, was the Commencement Speaker during the 2001 USU Graduation Ceremonies. During June of 1992, RADM Mariano became the first military woman to be named White House Physician; in February of 1994, she was promoted to Director of the White House Medical Unit and Senior White House Physician. Dr. Mariano was promoted to Rear Admiral (lower half) on July 1, 2000, making her the first Filipino American to become an admiral in the history of the United States Navy. The University Medal was awarded following RADM Mariano's presentation of the USU Commencement Address on May 19, 2001;

Michael N. Sheridan, Ph.D., USU SOM Associate Dean for Graduate Education, was recognized for his tremendous service to the University since 1980. Following his planned retirement during 2002, the University's presentation of this award reflected the tremendous respect and gratitude held by all for Dr. Sheridan's dedicated service and accomplishments during his more than twenty years of outstanding service to the University. The University Medal was presented during the USU Commencement Ceremonies on May 19, 2001;

Craig Llewellyn, M.D., Professor and Chair, Department of Military and Emergency Medicine, received the University Medal on August 23, 2001, during the welcoming ceremonies for the new students. The award recognized the superb dedication of Doctor Llewellyn who served as the Department Chair of Military and Emergency Medicine for 14 years (1987 through 2001). Doctor Llewellyn first joined USU in 1982, when he was selected to serve as the Commandant of Students from 1982 through 1987. Doctor Llewellyn has served as a foundation for the University in its continuous efforts to effectively respond to the special needs of military medicine. He remains at USU as a tenured professor and also as the Director of the Center for Disaster and Humanitarian Assistance Medicine (CDHAM);

Norman M. Rich, M.D., Professor and Chair, Department of Surgery, was awarded the University Medal on August 23, 2001, during the 16th Annual Surgery for Trauma Day. Since the very inception of the University, Doctor Rich has continuously provided support and encouragement to the faculty, students, and graduates of the School of Medicine. On both the national and international scenes, Doctor Rich has contributed to a positive awareness of the University through his international efforts and memberships in elite organizations. He has been responsible for on-going visits by prestigious organizations to USU. Two examples of such visits include the Society of University Surgeons (this premier organization for young academic surgeons has held two meetings at USU, whereas the majority of United States medical schools have never been visited) and, the International Surgical Group composed of Professors from leading Canadian, British, Scandinavian, and United States Schools of Medicine;

2002

Val G. Hemming, M.D., Professor and Dean Emeritus, USU School of Medicine, was awarded the University Medal on April 25, 2002, by the University President during Dean Hemming's retirement ceremony. Dean Hemming first came to USU in 1980 and served in the Department of Pediatrics where he was appointed as the Department Chair in 1987. In 1995, he served as the Interim Dean until his appointment as Dean in May of 1996. Under his leadership, the curriculum of the SOM was thoroughly reviewed and enhanced to better meet the special needs of the Uniformed Services. In all matters, Dean Hemming efficiently kept the welfare of the students, faculty and staff of the SOM as a driving force during his successful leadership;

Scott R. Lillibridge, M.D., CAPT, USPHS, USU Class of 1981, Leader of the Health and Human Services Coordinated Bioterrorism Initiative in July 2001, was awarded the University Medal on May 18, 2002, at the USU Commencement Ceremonies. CAPT Lillibridge was also the Guest Speaker at the 2002 USU Commencement. At the time of the graduation ceremony, CAPT Lillibridge served as the Special Assistant for Bioterrorism for the Secretary of Health and Human Services (HHS) and directed anti-terrorism efforts across HHS. CAPT Lillibridge also served as the Director of the Bioterrorism Preparedness and Response Program for the Centers for Disease Control and Prevention from 1998 through 2001. He joined the CDC in 1990, and in 1995, he led the United States Medical Delegation to Japan after the sarin gas attack in the Tokyo subway. Also during that year, Dr. Lillibridge was the lead physician for the

United States Public Health Service response following the Oklahoma City bombing. He has worked in 14 nations on epidemiology and other public health issues; has had three books in press; and, authored or co-authored 25 publications on bioterrorism and various other public health issues;

Chester J. Pletzke, A.M.L.S., Former Director of the USU Learning Resource Center, received the University Medal at the USU Commencement Ceremonies on May 18, 2002. Mr. Pletzke provided exceptional service to USU for 24 years as the Director of the USU Learning Resource Center (LRC). His visionary planning, advocacy, entrepreneurship, marketing skills, and great creativity resulted in the LRC becoming one of the outstanding medical university libraries and information centers in the United States. He forged partnerships with the National Library of Medicine, medical publishers, other medical libraries, information technology providers, and various government libraries to ensure that the LRC retained its national leadership. Every accrediting entity since the establishment of the LRC has recognized his superb leadership and the extraordinary support provided by the LRC to the students, faculty and staff of USU;

Dale C. Smith, Ph.D., Professor and Chairman, Department of Medical History, received the University Medal at the USU Commencement Ceremonies on May 18, 2002. Doctor Smith has already provided over twenty years of exemplary service to the University as a superlative teacher; mentor and critic; scholar of the history of medicine, military medicine and science; and, as a department administrator. His contributions in redefining scholarship and revising the University's essential policies for faculty appointment, promotion, and tenure have been critical. He has assisted with the development of new graduate programs in medical history, military applied physiology, and laboratory and animal medicine. In his capacity as an invited lecturer on medical and military history throughout the Nation and in many parts of the World, he has enhanced the recognition of USU, its mission, and the proud heritage of military medicine in the United States; and,

Faye Glenn Abdellah, Ed.D., Sc.D., RN, FAAN, Professor and Dean Emerita, USU Graduate School of Nursing, received the University Medal on May 30, 2002, from the University President during her retirement ceremony. Upon her arrival at USU in 1993, Doctor Abdellah was faced with urgent requirements to establish curricula, select a faculty, and gain approval from accrediting entities for the establishment of the USU Graduate School of Nursing (GSN). She accomplished all requirements with extraordinary success. As of April 2003, 183 advanced practice nurse graduates of the GSN have received graduate degrees in their specialties and serve the Nation in the Uniformed Services. The Nursing Chiefs of the Armed Forces extolled the success of the GSN during 2001-2002, when they met with the two accrediting organizations. Under the leadership of Dean Abdellah, the GSN met its mission and succeeded far beyond the established goals of the United States Congress and the Military Health System.

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The Carol Johns, M.D., Medal.

Background. **Carol J. Johns, M.D., Professor, John Hopkins School of Medicine,** was a long-time enthusiastic and effective supporter of the University. Doctor Johns worked for the health and survival of the University in numerous ways. She served as a member of the USU Board of Regents from 1985 until her death in 2000. A warm and gifted woman with remarkable personal humility and gentleness, Doctor Johns achieved the highest honors in academic medicine as a nationally recognized clinician, academician, and teacher. The University established an annual award in her name, the *Carol J. Johns, M.D. Medal*. The Medal will honor the faculty member whose accomplishments emulate Doctor Johns' spirit in: furthering the welfare and excellence of the USU faculty; promoting outstanding educational programs for the students; and, advancing the reputation of the University locally, nationally, and internationally. The Carol J. Johns, M.D. Medal was presented for the first time during the 2001 USU Commencement Ceremonies. Two individuals were chosen to receive the award during the 2002 commencement ceremonies. As of April 2003, a total of three individuals have received this prestigious award.

Recipients of the Carol J. Johns, M.D. Medal:

2001 **Louis Pangaro, M.D., Colonel, MC, USA (Retired), Professor, USU SOM Department of Medicine,** was the first individual to receive the newly established Carol J. Johns, M.D. Medal during the 2001 USU Commencement Ceremonies on May 19, 2001. Doctor Pangaro was selected due to his internationally recognized leadership in academic medicine and his commitment to the promotion of outstanding educational programs, which are acknowledged by his on-going selection to university and national initiatives dealing with curriculum reform;

2002 **Rosemary C. Borke, Ph.D., Professor, USU SOM Department of Anatomy, Physiology and Genetics,** was nominated by the USU Faculty Senate for the 2002 Carol J. Johns, M.D. Medal. Doctor Borke is recognized as: an outstanding educator of medical and graduate students; an innovative leader in the development and implementation of curricula; a model for faculty leadership at the Department and University level; and, an internationally recognized expert in the area of peripheral nerve injury and repair. Her involvement in, and contributions to, all aspects of USU faculty service have established a level of unsurpassed excellence that stands as a model for all USU faculty. She has demonstrated excellence in promoting outstanding educational programs, furthering the welfare and excellence of the USU faculty, and advancing the reputation of the University locally, nationally, and internationally; and,

Val G. Hemming, M.D., Colonel, USAF, MC (Retired), Professor and Dean Emeritus, School of Medicine, was chosen to receive the Carol J. Johns, M.D. Medal during the 2002 USU Commencement Ceremonies on May 18, 2002. Nominated by the USU Faculty Senate, Dean Hemming was recognized for his endeavors in research

for over 20 years. His research led to an innovative treatment that prevents death and disability from Respiratory Syncytial Virus infection in vulnerable pre-term infants. During his term of service as the Dean of the School of Medicine, he continued his on-going efforts to improve and reform the curriculum of the medical school. As with the rest of the Nation, the USU SOM faced a marked reduction in the number of patients available to students during their clinical rotations. To address this concern, Dean Hemming was instrumental in the implementation of the USU Simulation Center (SIMCEN), which allows the effective and efficient use of simulated patients. In addition, the SIMCEN facilitates the implementation of the latest technological and educational advances for the teaching of physicians and students. His success in this effort will guarantee the value of USU as a resource for the effective training and testing of medical students and for the continuing medical education of health care providers for generations to come.

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The Year 2002 Curreri Award.

Background. Following his retirement as the first University President in November of 1976, **Anthony R. Curreri, M.D.,** was awarded the Department of Defense (DoD) Distinguished Public Service Award. The DoD award, presented in 1977, cited Dr. Curreri for "collaborating with the military departments and for the development of the overall objectives and goals of the University to develop and implement an educational system of the highest quality to serve the physician manpower needs of the military services." The 1996 Graduating Class of the School of Medicine established the Curreri Award to both recognize exceptional contributions to the continuation and well being of the University and to memorialize the leadership of Dr. Curreri as USU's first President. Since the initial award in 1996, all of the graduating classes (SOM, GSN, and Graduate Education) have participated in selecting the recipients of this award.

Recipients of the Curreri Award:

1996	**Vorley M. (Mike) Rexroad, BG, U.S. Air Force (Retired)**;
1997	**John Dressendorfer**;
1998	**Lorraine B. Sanford**;
1999	**Charles C. Partridge, COL, USA (Retired)**;
2000	**Enrique Mendez, Jr., M.D.**;
2001	**Frederic G. Sanford, M.D., RADM, MC, USN (Retired)**; and,
2002	**Barry W. Wolcott, M.D., COL, MC, USA (Retired).**

Barry W. Wolcott, M.D., COL, MC, USA (Retired), Receives the 2002 Curreri Award. On May 10, 2002, the USU graduating classes awarded the 2002 Curreri Award to **Barry W. Wolcott, M.D.** The award recognized Doctor Wolcott for his on-going and extraordinary support of USU. Doctor Wolcott served as the first Chair of the Section on Emergency Medicine (later to become the USU SOM Department of Military and Emergency Medicine) from 1982 through 1983. As Chair, he was instrumental in the design and implementation of the first *Bushmaster Exercise* held in 1980 and in the evolution of the USU undergraduate Medical Education Program in Emergency Medicine. Doctor Wolcott served as a USU SOM Associate Professor of Medicine while stationed outside of the Washington D.C. area; in that capacity, he mentored USU students at the Brooke Army Medical Center in San Antonio, Texas, and at the Madigan Army Medical Center in Tacoma, Washington. He returned to USU as Commandant of Students for his last active tour and instituted the *Commandant's Call* as a teaching forum for instruction in officership. During his distinguished career, he has taken an active role in medical organizations and journals by serving as: President of the Society for Academic Emergency Medicine; an Editorial Board Member for the Annals of Emergency Medicine; a Charter Member of the Emergency Medicine Residency Review Committee; and, as the American College of Physicians Representative to the Accreditation Review Committee for Physician Assistants. Currently, Doctor Wolcott serves as the Senior Physician at WebMD Health, where he is responsible for assuring the medical quality and appropriateness of the consumer site. In retirement, Doctor Wolcott has continued to serve the University in numerous ways as: a consultant and guest faculty/lecturer in the USU SOM Department of Military and Emergency Medicine; a small group leader in various medical student courses; a fundraiser for the Sanford Chair in Tropical Medicine; a mentor to the USU Commandants; and, a supportive friend to the USU students. The USU community considers it to be a reflection of great credit upon the University when an individual, such as Doctor Wolcott, has demonstrated such long-standing appreciation, dedication, and support for the USU mission and educational programs.

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The 2002 Packard Lecture.

Background. The Packard Lecture Series was named in honor of **The Honorable David Packard** (September 7, 1912 - March 26, 1996), distinguished friend and supporter of the University. Mr. Packard was the Deputy Secretary of Defense when USU was created in 1972. He served as the first Chairman of the USU Board of Regents; and, he was the Acting President of the University from 1976 to 1981. Mr. Packard also served as the first Chair of the Council of Directors of the Henry M. Jackson Foundation for the Advancement of Military Medicine for over six years. The USU Faculty Senate established the Packard Lecture in 1985, to annually honor individuals who have made significant contributions to the military medical community; it is considered among the greatest honors bestowed by the USU faculty.

The David Packard Lecture Series:

1985 Enrique Mendez, M.D.	***Teaching Humanism to Medical Students***
1986 Joshua Lederberg, Ph.D.	***The Complexity of Biological Systems***

1987 C. Everett Koop, M.D.	***The Fight Against AIDS***
1988 Robert Petersdorf, M.D.	***Some Issues in Graduate Medical Education***
1989 ADM James Watkins, USN	***AIDS, The Political, Ethical and Social Aspects***
1990 Arnold Relman, M.D.	***Scientific Misconduct***
1991 VADM James A. Zimble, MC, USN	***Navy Medicine Goes to War, A Time For Evaluation, Reflection and Discussion***
1993 Philip R. Lee, M.D.	***Re-Inventing Public Health***
1995 David A. Kessler, M.D.	***Accelerating Approval for Drugs for Serious and Life Threatening Diseases***
1996 Joseph A. Califano, Jr.	***Radical Surgery: What's Next for America's Health Care***
1997 Michael DeBakey, M.D.	***History, the Torch that Illuminates Lessons from Military Medicine***
1998 Francis D. Moore, M.D.	***New Kinds of War: New Kinds of Peace***
1999 Senator Nancy Kassenbaum Baker	***The Federal Advisory Committee on Gender Integration Training and Related Issues***
2000 David P. Stevens, M.D.	***The Future of Medical Education: Bytes, Ticks and Finding Your Way***
2001 Wayne T. Hockmeyer, Ph.D.	***Perspectives in Biotechnology***
2002 Kenneth M. Ludmerer, M.D.	***The Coming of the Second Revolution in Medical Education***

The 2002 David Packard Lecture Features Kenneth M. Ludmerer, M.D., Professor of Medicine and History, Washington University, St. Louis. The President of the USU Faculty Senate, **Linda L. Porter, Ph.D., Professor, USU SOM Department of Anatomy, Physiology and Genetics**, reported to the USU Board of Regents on August 25, 2002, that one of the significant highlights of the Faculty Senate during 2002 was its sponsorship of the 2002 Packard Lecture which featured **Kenneth M. Ludmerer, M.D., Professor of Medicine and History, Washington University, St. Louis.** On May 9, 2002, 220 members of the USU faculty and staff attended the David Packard Lecture in the Sanford Auditorium. Doctor Ludmerer, an eminent internist, medical educator, and historian of medicine, delivered a lecture entitled *The Coming of the Second Revolution in Medical Education*. The lecture presented an overview of his recently released book, Time to Heal, which examines the evolution of American medical education from the turn of the Century to the present era of managed care. The 2002 Packard Lecture was well received and considered to be most relevant by the USU community.

Doctor Ludmerer is best known for his work in medical education and the history of medicine. His first book, Genetics and American Society (1972), a study of the American Eugenics Movement, was placed by *Saturday Review* on its list of the year's outstanding science books. His second book, Learning to Heal (1985), on the creation of America's system of medical education, was nominated for a Pulitzer Prize and Bancroft Prize. His recently released, Time to Heal (1999), has been called by reviewers ***a masterpiece of great national importance*** and ***the most important work in medical education since the Flexnor Report***. This book was nominated for a Pulitzer Prize and Bancroft Prize and is the first book by a living author to be selected for inclusion in The Classics of Medicine Library.

Doctor Ludmerer is a member of Phi Beta Kappa, Alpha Omega Alpha, the Association of American Physicians, the American Clinical and Climatological Association, and the American Academy of Arts and Sciences. He is a Fellow of the American Association for the Advancement of Science and the American College of Physicians. He is also President of the American Association for the History of Medicine and a member of the National Council of Harvard Medical School. He has served on the editorial boards of eight professional journals and has delivered named lectures at over 100 educational institutions or professional societies. In 1997, he received the Nicholas E. Davies Award of the American College of Physicians for Outstanding Contributions to the Medical Humanities; in 2000, the Distinguished Alumnus Award of the Johns Hopkins University; and, in 2001, the Inaugural Daniel C. Tosteson Award for Leadership in Medical Education from Harvard Medical School's Carl J. Shapiro Institute.

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TEACHING AND RESEARCH SUPPORT

Background. The nine activities organized under the Office of the USU Vice President for Teaching and Research Support (TRS) were originally established as part of the School of Medicine (SOM). As the University's activities and programs expanded to include the Graduate School of Nursing, Continuing Education for Health Professionals, and the Armed Forces Radiobiology Research Institute, it became apparent that the central support functions of TRS were no longer limited to the SOM. As a result, the TRS activities were moved from responsibilities designated to an Associate Dean of the SOM, to a University Vice President. As this evolution occurred, it was also determined that these activities should be called Centers to more accurately reflect their missions as central resources for USU. The nine TRS Centers include: the Audio Visual Support Center; the Center for Multidisciplinary Services; the Learning Resource Center; the Center for Informatics in Medicine; the Center for Laboratory Animal Medicine; the Center for Environmental Health and Occupational Safety; the Biomedical Instrumentation Center; the Information Services Management Center; and, the Pharmaceutical Supply Center.

The Audio Visual Support Center.

Visual communications media can demonstrate cause and effect relationships to convey complex concepts, furnish flawless demonstrations, and interactively involve students to learn in less time and more effectively than through or by traditional approaches.

- Herman Lewis, Educational Films: Writing, Directing, and Producing For Classroom, Television, and Industry, Crown Publishing Incorporated, New York, New York, 1965.

The USU Audio Visual Center (AVC) functions as an essential teaching and research support resource for the USU faculty and staff; it provides support for education and research through computer graphics, still photography, video, multimedia products, and consultation services. ***The Medical Photography Branch*** provides professional photographic services to include: patient photography in a clinical setting; gross specimen photography for Pathology and Anatomy studies; documentation of research projects; and, coverage of University events for public affairs programs. Photographic Laboratory services include: custom printing; film processing support; digital image enhancement; traditional slide duplication; flat art copy; small object studio subjects; and, portraiture services. ***The Computer Graphics Branch*** provides the following graphic art services for: charts; graphs; text for medical/scientific information in journal publications; poster session displays; and, 35 mm slides for classroom presentation. Detailed original medical illustrations in full color or line drawings are prepared to supplement teaching programs, accompany articles for publication, or illustrate research displayed in poster sessions. A variety of products are designed for Internet and electronic delivery in support of medical education and training programs. Signs, forms, brochures, logos, book covers, folders, and flyers are also produced in support of academic and administrative functions. ***The Medical Television Branch*** provides studio and remote video tape recording and broadcast services. Extensive editing, titling, and duplication are provided in support of laboratory demonstrations, field exercise documentation, and classroom lectures. Multimedia (CD-ROM/DVD) production

and web page design services are also available to enhance course materials and the distribution of University information. ***Streamlining Activities During 2002.*** Throughout 2002, the AVC further streamlined its services to more efficiently support the USU mission. In doing so, AVC has eliminated all chemical photographic processing through the acquisition of additional digital cameras and printers; it has also established contracts with the private sector for those remaining projects requiring chemically-based processing. Renovations and modifications to the Medical Photography Branch resulted in the removal of all hazardous chemicals, the remaining slide film processor, and the darkroom. During the renovation process, much needed space was made available to centralize the digital printers and to provide a dedicated area for video editing and CD-ROM/DVD production. In addition, the AVC Branches have supplemented their digital infrastructure by acquiring faster and more powerful digital production equipment and software. All of these modifications have enabled AVC to provide its USU customers with powerful and dynamic multimedia and interactive products.

Support for CFC and CD-ROM Production. For the fifth time, the USU AVC won the award for the Best Designed Poster for the Department of Defense, during the 2002 CFC Campaign. The University was able to announce on January 2, 2003, that USU had won First Place in the Best Goal Poster Category of the DoD CFC Communications Contest. **Technical Sergeant Waverly Johnson, USAF, USU Audio Visual Center,** created the winning entry. His poster, entitled *Walk a Mile in Their Shoes*, was displayed in the lobby entrance area of USU's Packard Hall (Building A). Sergeant Johnson's poster was entered by DoD into the National Capital Area CFC Communications Contest where it will compete against entries from all of the Federal Departments.

Following the terrorist attacks of September 11, 2001, the USU AVC provided rapid response to a Nation-wide requirement for information through the collaborative production of the CD-ROM, *Effective Medical Responses to Disasters*, with the USU SOM Department of Psychiatry and the USU Center for the Study of Traumatic Stress. Through the use of DoD contracts, over 11,000 copies of this product were distributed to members of the Association of Military Surgeons of the United States (AMSUS), the Governors and Health Officials from all 50 States, the Congress of the United States, and the Supreme Court of the United States. And, for the first time, in collaboration with the USU Vice President for Administration and Management, AVC developed a CD-ROM version of the *2001 Edition of the USU Journal*; designed in-house, and replicated through the use of a DoD contract. The electronic format of the USU Journal provides direct and searchable access to the wealth of information provided in the annual edition of the USU Journal. Copies of the *2001 Edition of the USU Journal*, in CD-ROM format, were provided to the 329 members of the USU faculty, the USU Board of Regents, the Surgeons General of the Uniformed Services and their immediate staffs, the Commanders of Military Treatment Facilities throughout the Defense Health Program, the Congress of the United States, and many others; it was also placed on the USU Web Site.

Digital Archive of Historical Images of USU. Throughout 2002, the Office of the Vice President for Teaching and Research Support, in conjunction with several USU activities, continued the development of a digital archive of historical images for the University. An annotated database of USU's historical images has commenced with significant images related to the University's Board of Regents. As it is expanded, this database will provide a permanent record of those images that capture USU's historical events beginning with its establishment through the maturation of the University. To date, approximately 1,000 images have been cataloged. This process includes sorting through the existing collection, scanning images into a digital format, applying appropriate captions, organizing into categories by subject matter, and preparing a CD-ROM for archival storage.

Center for Multidisciplinary Services.

The existing general facilities for teaching are excellent. Teaching and research support activities are providing a high quality of service to both academic departments and administrative/support activities.

- *Institutional Resources*, Chapter III, USU Self-Study Report to the Commission on Higher Education of the Middle States Association of Colleges and Schools, 2002, page III-12.

On-Going Renovation in Support of the Teaching Mission. By 1996, the USU Center for Multidisciplinary Services (MDL), the USU Faculty Senate, the Offices of the Deans of the SOM and GSN, and the USU President were aware that the teaching tools available in the lecture halls and auditorium required major renovation. Based on surveys of students, faculty, and staff, an engineering design was commissioned to upgrade the equipment; the project was then expanded to include the replacement of both carpeting and seating. The Office of the Vice President for Teaching and Research Support and MDL successfully coordinated a major renovation of the Sanford Auditorium and the USU lecture halls during 1998 and 1999. Since then, throughout 2002, subsequent upgrades of the teaching facilities have been on-going, to include a major purchase of tables and chairs for the teaching classrooms in September of 2001. All of these activities are in compliance with Goal 1 of the USU Strategic Plan. By upgrading the lecture halls, classrooms, and the auditorium, USU has enhanced its ability to: provide a quality educational environment for its students, faculty, and staff; conduct continuing medical education; and, sponsor military medical conferences for the MHS in a manner *that will enhance the reputation of USU as a premier health sciences academic institution.*

Upgrades in Support of the USU Teaching Mission. All of the USU lecture halls have been designed with the same equipment and controls so that instructors and students can learn one system and move from one lecture room to the next without readjusting to unfamiliar teaching tools. The upgraded equipment provides the faculty with a broader range of teaching tools to present their material. On-going upgrades include: 1) the installation of upgraded audio and projection equipment; 2) the provision of computer capability and Internet access; 3) enhanced video capabilities in each room, to include in-house cameras for overflow viewing throughout the campus; and, 4) *smart* classroom capabilities in Lecture Room C, to include video-teleconferencing and a state-of-the-art audience response system. A majority of these upgrades took place during the summer of 1998; and, equipment installation occurred around class schedules throughout 1998 and 1999. Similar upgrades are also being planned for the Board of Regents Conference Room, selected conference rooms throughout the campus, and the Multidisciplinary Laboratories. In September of 2000, resources were identified to obtain computer and video projector equipment to upgrade the major USU conference rooms with systems similar to those available in the lecture halls; this upgrading process continued throughout 2001.

During 2002, the MDL completed the installation of new video projectors in all of the USU lecture rooms. This was in keeping with the original upgrade plan for the redesign of the USU lecture hall control systems as described above. The control systems, installed during 1998-1999, allowed the lecturers to control various aspects of the audiovisual support as well as to facilitate future upgrades of the equipment within the lecture halls without having to change an entire system. The 2002 process of upgrading the video projectors proved to be a simple process due to careful planning for future requirements.

Renovation Efforts Are Completed in the Anatomical Teaching Laboratory. In 1998, it was identified that the working and storage areas and the freezers in support of the Anatomical Teaching Laboratory (ATL) required significant renovation. Following coordination with the Vice Presidents for Administration and Management, Resource Management, and Teaching and Research Support, funding was identified in September of 2001 for the renovation of the working and storage areas and the replacement of the ATL freezers. Following extensive consultation and planning by the USU Facilities Division, the Anatomical Curator, and the Navy Public Works Center, the renovation project began in December of 2001, and was successfully completed during 2002.

Upgrades for the Teaching Laboratories and Conference Rooms. In the past, the University utilized oscilloscopes and chart recorders to facilitate the teaching of physiological changes due to disease and treatment in the first-year teaching laboratories. These units were failing and replacement equipment was becoming increasingly unavailable. Following the identification of the need to replace the twenty-five-year-old system, MDL planned, justified, secured funding for, purchased (during 2000), and installed (during 2001) a system of computer-based teaching workstations at each first-year laboratory table. Since the installation of the computers in the teaching laboratories, the USU SOM Department of Anatomy, Physiology and Genetics (APG) has utilized the new resource for laboratory exercises. The students learn to monitor their heart rates and to run a series of experiments studying the changes in heart rates. Once students have become familiar with the basic operation of the equipment, it is used in the advanced cardiac physiology laboratory exercises. Both of these teaching laboratories have been judged to be quite successful by the students and faculty. *While the computers were purchased primarily to replace the physiological recorders mentioned above, they have become a source of greatly expanded, computer-assisted, teaching applications in a variety of disciplines.* For example, because of the powerful nature and adaptability of these new tools, the MDL received requests from Biochemistry, APG, Neuroanatomy, Microbiology and Immunology, Pharmacology, and Radiology and Radiological Sciences for the expanded use of this equipment in their laboratory exercises. Through the utilization of the centralized and networked controls of this computer system, a wide variety of demonstrations, laboratory simulations, experimental exercises, and testing procedures are currently being used, or are under development for expanded use, by multiple SOM Departments. Additionally, this equipment is planned for use in computer-based testing applications. These demonstrations, simulations, exercises, and procedures have been found to provide cost-effective, true-to-life, experiences for students that were not formerly available; and, they have been so successful that plans have been made to duplicate the system throughout the second-year student laboratories.

During 2002, the MDL procured and integrated eight new LCD projectors for use in the USU laboratories and conference rooms. Because many USU departments have increased their use of computer presentations during laboratory exercises and lectures, the MDL has been increasing its state-of-the-art computer projection equipment for use by the USU community. This has allowed the instructors greater flexibility in selecting the teaching modality for presenting material to the students. In fact, the MDL has ordered sufficient LCD projectors to permanently mount one in each teaching area and increase user capability throughout the USU laboratories and conference rooms. Also, during the past year, the University has leased an additional fifty computers for use throughout the MDL. These, added to the original fifty, have significantly increased the capabilities for the instructors to use a broad range of tools for instructing USU students. As described above, the SOM Department of Anatomy, Physiology, and Genetics utilizes the computers in three of four teaching blocks; and, the Pathology Department was among the first to utilize the computers for testing medical students. Based upon the success of Pathology's process, several other SOM Departments are interested in similar activities during the next academic year; the students also use the computers as an additional study resource for reviewing class materials and

presentations. During 2002, the MDL replaced the computers used for presentations throughout all USU lecture halls; again, that process was streamlined due to excellent planning by MDL for future upgrades.

Throughout 2002, the MDL managed and supported over 2,500 room requests for teaching and meeting requirements; many of which were for multiple rooms over numerous timeframes. Support was provided by the MDL staff for several international conferences and workshops during the past year. The MDL continues to provide superb service to faculty, students, and staff at USU (as noted during the Self-Study for the Middle States Commission completed during 2002) and to meet the needs of the military medical community for space and teaching support.

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The Learning Resource Center - Globally Available.

The Learning Resource Center staff is highly trained and knowledgeable and is responsive to the needs of students and faculty... The LRC staff is effective in meeting the changing demands of the University community. *They have blended the traditional print resources with the electronic versions to achieve a broader scope of information that is accessible worldwide.* The growing collection of unique web-based resources will enhance the University's position in the academic world.

The physical library is well maintained and cataloged. In conjunction with its mediated database and interlibrary loan services, it provides ready access to biomedical and clinical information in support of educational programs. A variety of computerized web-based resources supports information retrieval and management, and offers students opportunities for self-paced learning. The LRC has also made a strong commitment to working in teams with the academic departments to develop programs and services to better serve its user populations.

- *Institutional Resources*, Chapter III, USU Self-Study Report to the Commission on Higher Education of the Middle States Association of Colleges and Schools, 2002, page III-14.

World-Wide Access for Health Sciences Information. The Learning Resource Center (LRC) ensures that students, faculty, alumni, and other members of the USU community can continuously access current medical information twenty-four hours a day through its electronic knowledge-based resources. LRC customers are provided immediate and knowledge-based material on new or alternative treatments, diagnostic tests, background information for a student's case presentation, practice of evidence-based medicine, or a literature search in preparation for a research article or grant, whether or not the LRC is open or closed.

The USU Learning Resource Center (LRC) continued, throughout the Year 2002, to ensure that its electronic resources were globally accessible; the LRC assisted 6,885 registered patrons by making current, medically-related information available via the Internet. Unique gateway software enabled users to access on-line medical information from Kosovo, Japan, Iceland, Bosnia, Germany, Italy, the United Kingdom, Turkey, Saudi Arabia, on board ships traveling around the world, and from sites located throughout the United States.

Selected examples of the LRC customer base include: physicians; all four classes of USU medical students; USU alumni; Graduate School of Nursing students; distance learning students; USU faculty both on and off campus; residents, nurse practitioners, and registered nurses throughout the Military Health System (MHS); and, the Office of the Secretary of Defense. *During the Year 2002, 6,885 users requested 4,000,000 pages from the LRC Remote Services*.

The LRC staff continues to meet traditional information needs by providing print articles and books to its patrons and libraries worldwide. The LRC lends more than it requests; for example, during 2002, only 1,700 articles or books were requested by the LRC from other libraries, which indicates that USU faculty and staff are able to fill most of their information requirements from the print and electronic holdings offered by the LRC. The LRC provides articles to other libraries within four to twenty-four hours; however, rush patient care requests are usually completed within one hour. The *ARIEL* software facilitates sending an article instantaneously after the journal is retrieved from the shelf. This interlibrary loan service works both ways; the LRC receives articles for its patrons in a very short time. In the past, interlibrary loans took as much as from one, to two weeks, to provide the same service.

Approximately 3,200 requests were handled by the LRC during 2002 for public, medical, and even major university libraries. Requests were also received from local hospitals, universities, and medical centers, such as the National Institutes of Health (NIH), the Walter Reed Army Medical Center, and military medical facilities located in Germany. The LRC also reaches many physicians, nurses, students, and patients by providing medical articles, which they have requested through their local medical or public library.

Reliable Leadership and User-Friendly Access.

A variety of space is available for student study at the school. The LRC is a favored site because many different types of study space and equipment are convenient to the students. There are 10 study rooms for individual or group study in the LRC. In the Spring and Fall, students can also study at tables and benches located on the second and third floor patios of the LRC. Since the 1993 LCME self-study and site visit, the number of private study carrels in the LRC has been increased from 18 to 64. Almost 90 PC and MacIntosh computers, with computer-based educational software programs developed either commercially or on-site, are now accessible in the LRC for students to use while learning, reviewing and self-testing information. A training classroom in the LRC with 40 computers can also be reserved for student testing and/or review.

- Section VI, School of Medicine Self-Study, page 6, submitted during 1999 and reconfirmed in Chapter III, *Institutional Resources*, Self-Study Report for the Commission on Higher Education of the Middle States Association of Colleges and Schools, 2002, pages 12-14, and 18.

Since its establishment, the LRC has succeeded in providing both an outstanding learning environment and state-of-the-art educational tools for the USU students and faculty. Following the retirement of **Chester J. Pletzke, Founding Director of the USU Learning Resource Center,** during 2002, a Nation-wide search was

conducted by the University. In mid-November of 2002, **Ms. Ursula Scott was selected as the new Assistant Vice President for the LRC.** In this position, Ms. Scott will not only have oversight of the LRC, she will also focus on outreach activities. This outreach would include providing a gateway to electronic content for other DoD research or medical libraries, along with group purchases. Grant writing would be another aspect of this process. **Ms. Janice Powell Muller**, who served as acting director upon the departure of Mr. Pletzke, **was assigned the permanent responsibility of Director, Campus Learning Resources**.

Reference Services. During the past year, a University-wide initiative was undertaken to assist the LRC patrons in the use of the LRC's electronic resources. First, the available resources were identified and advertised to all patrons; this effort included direct mailing and the personal delivery of special information sheets and bookmarks. A series of classes were held for both LRC patrons and the LRC staff; among the topics covered were *PubMed*, *EndNote*, *ARIEL*, and *Loansome Doc*. Additional courses are being developed for the USU Faculty Development Grand Rounds; in addition, the USU Reference Librarian created three subject bibliographies and six electronic research guides during the past year. Reference Services provides on-line request forms to facilitate mediated literature searches and interlibrary loans. The purchase and installation of the *ARIEL* software enabled the LRC to deliver articles to patrons in PDF format, via e-mail; thus, *ARIEL* has greatly reduced the turn-around time for the delivery of interlibrary loan articles to patrons due to the electronic transmission of information rather than the traditional mail service. In addition, the implementation of the National Library of Medicine's *Loansome Doc* service allows the LRC patrons to electronically request articles not owned by the LRC.

Remote Computer Services. Since its establishment, the LRC has continued to diversify and update its resources to meet its customers' changing requirements. New proxy technology improved the reliability and compatibility of remote access to the LRC's electronic collection. Selected journals, once restricted to campus, have become available through remote computer services. These remote services have added support and instructions tailored to various *browsers*. The LRC's remote services administrative databases were also redesigned; as a result, improved reporting functions offer administrators enhanced usage data for their decision-making. Electronic journals are now more directly linked to content than ever before, thus reducing search time for the LRC patrons.

Computer Classroom/Laboratory. The LRC's computer classroom provides 40 workstations, to include an instructor's station. When it is not being used for classes, the laboratory is utilized by individual students for assignments and electronic activity. The LRC Computer Classroom hosted 198 teaching sessions during 2002, with twenty to thirty sessions per month. LRC staff reserve, prepare, and provide technical assistance for these classes. The classroom was used for academic instruction with hands-on practice by the following USU activities: Departments and Programs in the SOM (Biomedical Informatics; Dermatology; Family Medicine; Medical and Clinical Psychology; Molecular and Cell Biology; Pharmacology; and, Preventive Medicine and Biometrics); the Graduate School of Nursing; Faculty Development; Contracting; the Learning Resources Center; Finance; and, University Information Systems. In addition, the Graduate School of Nursing and the Departments of Pathology and Dermatology made extensive use of the classroom for on-line examinations and quizzes.

Library staff members taught sections in *Introduction to Computers for Molecular and Cell Biology*, *Computer Fundamentals for Master of Public Health*, *Nursing Research*, *Educational Methods*, *PubMed*, and numerous faculty development seminars and student, faculty, or staff orientations. In addition to the computer

classroom, there are approximately 50 additional computers available in the LRC for student and faculty use. While the majority of computers are PC's, the LRC does provide 23 MacIntosh computers. There are heavy-duty printers, scanners and CD burners, along with special software packages, which can also be used for educational purposes.

Microcomputer Help Desk. Members of the LRC's Applied Medical Informatics Branch staff the help desk. They answer technical questions in-house, on the telephone, and from e-mails sent from clinical faculty, students and researchers on assignments around the world. The help desk not only supports the computers in the LRC, but also provides assistance to patrons experiencing problems related to the Remote Computer Service. The help desk is part of the effort to provide extraordinary customer service as well as to assist students in becoming *computer literate*, as appropriate.

Internet Information Resources During 2002. During the past two years, the scope of the LRC Internet services was expanded to ensure that USU students, faculty and staff have access equal to that found at any other major medical library. Patrons now have access to a one-stop information center, particularly clinical faculty and alumni located at remote sites where first-line patient care must be provided. *UpToDate Online*, an on-line, easy-to-use textbook, was licensed and deployed during 2002. The LRC also provides the following:

1) ***Books.*** Standard textbooks are available in all major medical specialties. All electronic editions are constantly updated and thus provide current information for the practice of health care. Currently, there are more than 220 full-text books available through the LRC. These include such familiar titles as *Harrison's Principles of Internal Medicine*, *Scientific American Medicine*, *Cecil's Textbook of Medicine*, *Current Medical Diagnosis and Treatment*, *Sabiston's Textbook of Surgery*, *Conn's Current Therapy*, *Nelson's Textbook of Pediatrics*, *Merritts' Textbook of Neurology*, *Griffith's 5 Minute Clinical Consult*, the *Washington University Manual of Medical Therapeutics*, *Campbell's Urology*, and *Danforth's Obstetrics and Gynecology*. During 2002, books from Ovid and Merck were added; these included the *Kelley's Textbook of Internal Medicine*, the *5 Minute Emergency Medicine Consult*, the *Merck Manual of Geriatrics*, the *Merck Manual of Diagnosis and Therapy*, and the *Merck Manual of Medical Information*;

2) ***Journals.*** Conversion to the electronic editions of health-related journals or periodicals continued throughout 2002. The LRC currently has 5,475 journal titles available on-line in full-text to assist its users. *ScienceDirect* was increased to 1,491 titles. Dialog databases, along with full-text journals from Synergy, Highwire Press, and Ovid were added. This was in addition to the existing collections from Adonis, Catchword, Ingenta, Kluwer, Karger, Gale, Ebsco, BMJ, and MD Consult. And, Medical Specialties Yearbooks continue to be available;

A Quick Look at LRC's Print, Video and Electronic Resources.

Print Volumes (Book and Journal)	107,218
Electronic Book Titles	228
Print Journals	760
Electronic Full-Text Journals	5,475
Audiovisuals	450
Educational Software	50
Electronic Databases	493

3) ***Practice Guidelines.*** With the addition of MD Consult, over 500 Clinical Practice Guidelines contributed by more than 50 medical societies and government agencies are now available through the LRC; during 2001 through 2002, plans were coordinated for access to the new MD Consult Cardiology Program;

4) ***Patient Education.*** More than 2,500 patient education handouts, which can be personalized to include special instructions provided by the attending physician or staff, are available;

5) ***Continuing Medical Education.*** There are more than 300 Continuing Medical Education (CME) Modules; each offers 1.5 Category I credits, for a total of 450 hours of Category I credit, which can be applied toward the American Medical Association Physicians' Recognition Award. The collection provides practical topical updates across eleven specialties of medicine. Each CME test is enhanced with links to related information contained in the electronic books, journals, practice guidelines, and drug information as well as to other web sites with relevant information;

6) ***Today in Medicine.*** This module allows the health care professional to stay informed about the newest developments in medicine. The module provides current developments from all of the major journals, government agencies, and medical conferences. Also provided are concise clinical summaries and links to additional sources of information on the Internet; and,

7) ***In This Weeks Journals.*** The health care practitioner can keep up with all of the major weekly journals through this module. Key contents of the major clinical journals (*Journal of the American Medical Association*, the *New England Journal of Medicine*, the *Archives of Internal Medicine*, *Lancet*, etc.) are presented each week in an easy-to-scan format, which includes concise article summaries.

Archival Collection for Preserving the University's History. The primary functions of this newly created LRC branch are: to preserve, arrange, and describe items of significance to USU history and rare collections; and, to provide world-wide access to key documents for research via the Internet. With the advice and financial

support of senior management, along with **Val Hemming, M.D., Professor and Dean Emeritus, USU School of Medicine,** and the USU SOM Department of Medical History, the LRC has made great strides in implementing an archival program for the University. The mission of the new branch is to preserve and make accessible materials that document the history and unique qualities of USU, as well as the history of military medicine. The Archival Collection has received donations from USU faculty members and administrators since its establishment. These collections provide invaluable historical information on the significant activities of USU. Other unique donations pertain to both USU history and military medical history. A significant collection of papers from the Society of Medical Consultants of the Armed Forces was also obtained; it includes their meeting minutes and materials, as well as the papers and oral histories from prominent members of the society. Standard archival procedures for organization and storage are employed; documents are stored in acid-free document cases, ensuring their availability for future researchers. Search aids, including the use of specialized computer databases, will facilitate easy access for future researchers; holdings currently consist of sixty linear feet of space.

A Digital Archival Collection. A significant accomplishment of the LRC Archival Collection was the development of a digital archival system. This program was first conceived during the Summer of 1999; and, it has grown into an expanded electronic collection of over 120 historical documents available through the LRC web site: *<http//www.lrc.usuhs.mil/(select)Military Medicine Historical Documents>*. Historical military medical government documents already owned by the LRC are being scanned into Adobe's Portable Document Format (PDF) for universal use. When possible, Optical Character Resolution (OCR) is being used to make the documents fully searchable, in both MacIntosh and Pc format, while maintaining the page format of the original. This special project includes documents from the Civil War through World War II. In addition to historical documents, USU theses and dissertations have been digitized. Graduate School of Nursing theses written since 1998, and recent SOM Graduate Education dissertations and theses, are the first to be included. Any current, or former students, who have written theses or dissertations for USU, are encouraged to submit an electronic format of their work to the LRC archival collection; it will be converted to PDF format and placed on the web site. Thus, world-wide access to the research findings of USU students will be available, which will showcase their work. To date, there are over 100 theses and dissertations on-line.

Partnership for Peace Information Management Systems. The success of the global use of the LRC resulted in the initiation of a cooperative venture with the Partnership for Peace Information Management Systems (PIMS) during August of 1999. This project enables access via the Internet to specific medical care information systems for the medical community in the Republic of Georgia; it officially opened for registered users on December 15, 1999. During 2002, Uzbekistan was added to the cooperative venture. Health care professionals in the Republic of Georgia and Uzbekistan are provided access to a selection of clinical medicine journals, books, and databases such as Micromedex and MD Consult. This project continued throughout 2002; PIMS plans to expand access to Romania and other countries. This exchange of health care information is expected to be relevant to the unique preparation of USU students for operational assignments; outcome assessments will be used in determining the future expansion of this project as resources are identified.

Support to Other Military Medical Libraries and Institutions. In 2002, the LRC entered into, or maintained, cooperative agreements with the Walter Reed Army Institute of Research (WRAIR), the Navy Medical Research Center (NMRC), the Portsmouth Naval Medical Center, the Department of State Medical Services, the Association

of Military Surgeons of the United States (AMSUS), the United States Army Medical Research and Materiel Command (USAMRMC), and others to extend on-line services to health care professionals and researchers. Significantly, this service extends LRC computer expertise to assist other DoD groups and libraries.

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Informatics - An Expanding and Essential Component of Education in the Health Sciences.

Background. Efforts in computer-assisted instruction as a study aid for USU students have been ongoing since 1979, when a series of medical students developed, in Apple Pascal, the first drill and practice question bank within the SOM. Course directors provided questions entered into the University Board Review System. In succeeding years, several departments (Biochemistry, Pathology, Pharmacology, and Physiology) developed their own on-line examination archives or examination item databases, which have been well received by the students. Over time, this type of material was delivered to students first on stand-alone computers, then on networked computers (HyperPharm, HyperRenal, and others) and most recently as world-wide web (WWW) based sites accessible both inside and outside of the University by students in the SOM Departments of Biochemistry, Pathology, Pediatrics, Pharmacology, and Physiology and the GSN students majoring in Nurse Anesthesia and Nurse Practitioner. Perhaps the most ambitious of these efforts is the Biochemistry question database of examination questions for testing, which was developed between 1991 and 1996. This archive is available at <*http://bob.usuhs.mil/biochem/exams/exams-f.html*>.

Innovative Web-Based Study Aids, Teleconferencing Sessions, Exercises, and Course Administration. Image-based study aids have been developed by the USU faculty. The earliest of these efforts were Radiological Anatomy, Neuroanatomy, and Chest Film Review laser disc programs developed and deployed between 1985 to 1995 by the Department of Radiology and Radiological Sciences. In 1996 and 1997, this material was also made available to students as CD-ROMs; and, in 1997, the material was migrated on the WWW at <*http://rad.usuhs.mil/rad/edu/edu.htm*>. The Department of Radiology and Radiological Sciences has established collaborative efforts with faculty at the Mayo Clinic Foundation and Emory University, which provide USU medical students access to the Visible Human data set. Both SOM and GSN students utilize this resource. Another current effort encourages the students to draw correlates between anatomy, physical diagnosis, clinical neurology, and radiology.

Currently, USU uses interactive, real-time video teleconferencing to link five different sites for its six-week clerkship in Obstetrics and Gynecology. In sessions that last from 60 to 150 minutes, site coordinators meet with the clerkship directors and administrative personnel to discuss such crucial issues as curricula, student problems and evaluation, and faculty development. Since the sessions began in May of 1998, USU has found that the sessions enable the standardization of curricula, facilitate the sharing of ideas, reduce administrative tasks through centralized support, and improve the meaning, consistency, and level of detail in student evaluations.

The Physiology Course (Graduate Education and SOM first-year students) provides an acid/base game in which students diagnose an acid/base disorder from patient data on a Davenport diagram, treat it, and see what the treatment does to the patient. Other exercises include body fluid compartments and Yannet-Darrrow diagrams, and the control of glomerular filtration, Tm and the countercurrent mechanism. These exercises are treated as a

regular laboratory in the course. The Pharmacology Course (Graduate Education, GSN, and SOM second-year students) has included a computer-based pharmacokinetics simulation exercise and a computer-based drug information exercise, as integral parts of the course for the last 15 and 10 years, respectively. These exercises, designed by USU faculty, are conducted individually by students or in small groups in the Learning Resource Center (Nurse Anesthesia, Graduate Education, and SOM second-year students).

Over the past five years, on-line quizzes and formal examinations have become more widely used by both the SOM and the GSN. One of the first, routine on-line quiz at USU was introduced during 1999-2000 in the Department of Medicine's (MED) Clinical Concepts Course. Subsequently, similar quiz material was introduced in MED's Introduction to Clinical Medicine, Biomedical Infomatics, Radiology and Radiological Sciences, and the Health Service Administration Division of Preventive Medicine and Biometrics Courses. The GSN Pharmacology Course for Nurse Anesthesia students introduced formal examinations as an on-line exercise during the 2000-2001 academic year. This effort continued during 2002 and was expanded to other GSN courses. The GSN intends to move most formal examinations to an on-line format; the SOM Departments of Microbiology and Immunology and Pathology intend to convert from paper-based formal examinations to on-line examinations by 2003.

The USU SOM Department of Medicine has introduced a widely used innovation in course administration. *CWebLog* is a WWW-based database for logging students' clinical experience during the medicine clerkships. As students submit data, they may be presented with a set of reviewed links related to the type of case they are reporting. Student entries are stored in an SQL database that is used to produce browser-based reports on any combination of clerkship experiences. A preliminary description of this project has been published and is described at: *<http://cweblog.usuhs.mil>*. Over subsequent years, six of the seven SOM clerkships have adopted *CWebLog* as one means of recording student experiences in the clinic. The project was expanded to include the collection with PDAs. Data from these devices is synchronized to the same SQL database as is data from personal computers and a web browser. The GSN Nurse Practitioner faculty use a similar WWW or Portable Digital Assistant (PDA)-based system and the GSN Nurse Anesthesia faculty utilize data collection in a spreadsheet format aggregated in their department's office.

MedPix, An Internet Teaching File for the Health Sciences. The USU MedPix System was developed to offer medical students, researchers, and clinicians a descriptive on-line database housing medical case examples. The intent is to provide a fully-functional archive of clinical photographs and radiologic images, primarily of abnormal and disease conditions. The result has been a shared Internet teaching file filled with a variety of illustrated medical cases available to anyone interested in learning more about an affliction or in sharing information and images from cases they have seen. These cases are further complemented with posted summaries, reports and editorial comments. **James Smirniotopoulos, M.D., Professor and Chair, SOM Department of Radiology and Radiological Sciences**, and third-year medical student **Ensign Henry Irvine** originated the USU program as a text-only database with aspirations to develop it into a multi-level program. Instead of using only static web pages, it was decided to use a database and dynamically generated pages. The intention was to allow its users, at remote sites, to add images and cases into the database. The site began with a Radiology intent and has since branched off into the Dermatology and Pathology disciplines. Visitors to the site can also practice identifying ailments by selecting a "hide-text" feature. This allows the user the opportunity to take a self-quiz before the introduction to the actual illness. It has become an impressive site in terms of complexity and depth of resources.

It is also recognized as a powerful teaching tool for residents. In fact, during 2001, Radiology residents used MedPix data for teaching files at such hospitals as the Tripler Army Medical Center, the Naval Medical Center at San Diego, and throughout the National Capital Region. Continuing through 2002, Doctor Smirniotopoulos' Distance Learning Program has provided monthly Neuroradiology Teleconferencing between USU and the Naval Medical Center in San Diego, California. The MedPix Medical Image Database System is now used by all Department of Defense Radiology Residency Programs and it is the primary teaching file for: the National Naval Medical Center: the Walter Reed Army Medical Center; the Tripler Army Medical Center in Honolulu, Hawaii; the Madigan Army Medical Center in Tacoma, Washington; and, USU. The MedPix Case of the Week is distributed by e-mail to more than 1,700 registered users each week, as well as to USU students across all four years of the School of Medicine.

Compact Disc Provides Cost-Effective Assistance. The Department of Pathology has digitized its entire 2x2 slide collection, some 1,300 images, used in the MS-II Pathology Course; the images are available to students via the WWW. The Pathology Department has developed a compact disc of approximately 1,000 photographic images of pathological specimens. Directed to second-year medical students, the compact disc provides assistance for preparing for pathology laboratories and examinations; the disc provides a comprehensive collection of images covering all major organ systems. The department finds that the compact disc increases the accessibility of images to students and results in significant financial savings because duplication costs for lost or damaged 2x2 slides are eliminated. In addition to the image data bank, this WWW site archives old examinations and the SOM Pathology Laboratory Manual, and administers 14 quizzes to students during the course. Each year, USU students access the 14 on-line quizzes, which use photographic images, answer the quiz questions in an open book format, and submit their answers electronically to the department. A data bank of questions written by USU faculty are archived by computers and used in testing medical students. The use of archived questions allows the department to compare class performance from year to year and to evaluate the quality of the questions, which has reduced ambiguity in examinations. The Department of Anatomy, Physiology, and Genetics (APG) has also digitized large portions of its 2x2 histology collections; these digital collections are available to students on and off campus. The Department of Pathology also uses Internet technology to provide a web page independent of the University's web site. This page enables students to access information regarding Pathology's educational activities, links them with other medical schools and pathology web sites, informs the public of USU departmental personnel and research activities, and advertises the department's Ph.D. Program in Pathology. In recognition of the need for the deployed military physician to have access to Continuing Medical Education (CME), the Pathology Department has also used computer technology to provide CME credit to these physicians. Through this web page, uniformed physicians could review cases written by the pathology faculty, answer a series of questions based on the specific case, and receive CME credit. More than 300 CME certificates have been issued by USU for this activity.

eMedicine.com - USU Faculty Help to Revolutionize Medical Textbook Publishing. During 2001, two USU department chairs and many other USU faculty played key roles in a publishing breakthrough that has redefined the way today's health care professionals can obtain timely and critical medical information (a skill which is essential to the medical students' future practice). The new "revolution" is called *eMedicine.com* and its impact is worldwide. *eMedicine.com*, the medical education network that has developed the first and largest on-line, peer-reviewed medical reference library, is available to the entire world, free of charge, assuming Internet access. It consists of 59 on-line reference books covering every medical specialty. Radiographic images, photographs, audio and video clips relevant to each topic are incorporated. Each chapter features 1.5 hours of Category I American Medical Association (AMA) Physician's Recognition Award continuing medical education (CME) credit. There are an estimated 15,000 hours of CME credit. Authors and medical editors are volunteers

and are not compensated in any way for their efforts. There is significant supervision of content, with several layers of medical and copy editors to assure accuracy and quality. Unlike traditional textbooks, which can be as much as six years out of date at the time of publication, the information in the *eMedicine.com* chapters is updated 24 hours a day, 365 days per year. If an important new study is published in a journal, the research is immediately included in the on-line textbook. The United States military is the largest user of the site to date. There are at least five million users per year, and that figure is rapidly increasing every six months. **Leonard Sperling, COL, MC, USA, Professor and Chair, USU SOM Department of Dermatology**, is one of the editors and authors of the Dermatology Textbook on *eMedicine.com*. And, **James G. Smirniotopoulos, M.D., Professor and Chair, USU SOM Department of Radiology and Nuclear Medicine**, is one of the editors-in-chief of the Radiology Textbook on *eMedicine.com*. Numerous USU faculty members also contribute to this web site.

Virtual Reality-Based Environment for Teaching Clinical Anatomy. *Anatomic VisualizeR* is a virtual reality (VR)-based environment for teaching and learning clinical anatomy, which was initially developed by the University of California, San Diego (UCSD). Currently, educational applications of *Anatomic VisualizeR* are being jointly explored by UCSD and USU. *Anatomic VisualizeR* made its curricular debut outside of UCSD in 1999, when it was used for teaching two graduate-level nursing Neuroscience lectures; USU is currently the only school approved to use *Anatomic VisualizeR* outside of the UCSD. The two universities have jointly developed six new lessons. The application is utilized by both the GSN (Neuroscience and Pathophysiology) and the SOM (Introduction to Structure and Function). *Anatomic VisualizeR* provides a virtual dissection room in which students and faculty can directly interact with three-dimensional models and concurrently access supporting curricular materials. A broad range of virtual exploratory tools enables users to investigate structures in ways not possible in the real world.

Telegenetics Web Site Assists with Genetics Education and Services for the DoD. Computer assisted simulations are used as an integral part of several SOM courses. For several years, the Biochemistry Course (MS-I) has used a human genetics tutorial, developed by USU SOM faculty. This is supplemented in the clinical years by the internationally used Telegenetics web site (*http://www.usuhs.mil/genetics/*) authored by the USU SOM faculty from the Department of Obstetrics and Gynecology. In response to the recognized need for genetic services, USU designed an Internet solution to assist with genetics education and services for the DoD. The Telegenetics web site was initially developed in 1996 with the assistance of the United States Navy Telemedicine Department and the Applied Physics Laboratory (APL) at Johns Hopkins University. The Telegenetics site was moved to USU in 1997 to focus on educational goals and to provide consultations in genetics to the DoD's deployed forces. The mission of the Telegenetics web site is to provide information and education about genetics to DoD primary care providers, specialist physicians, USU medical students, graduate students and researchers, and interns, residents, and fellows within the DoD Graduate Medical Education Programs. The web site acts as a centralized knowledge resource, providing its recipients with on-line genetics lectures, written information, instructional aids like On-line Mendelian Inheritance in Man (OMIM), and links to articles, laboratory services, and patient support groups. Through store and forward technology, the Telegenetics web site also enables consultations about genetic disorders. Health care providers have accessed this site from within the continental United States as well as from international locations, including Yokota, Misawa, and Okinawa in Japan. Costs for transporting patients to consultants in genetics may be decreased by providing information about genetics to patients and health care providers in remote locations via the World Wide Web. During 2002, the web site was maintained and used for providing information to deployed personnel. In addition, educational information was also provided through the use of PowerPoint slides. And, as coordinated by **Charles J. Macri, CAPT, MC,**

USN, NNMC, on February 12, 2002, during a Tele-MFM conference with Landstuhl, Germany, USU has offered use of the web site for Genetics information to personnel in Germany and Italy. Current plans include further development of the web site to provide information about new genetic services and tests as they become available.

The USU Clinical Simulator, Patient Simulator Laboratory, and SIMCEN Present Scenarios Applicable to Combat Casualty Care, Anesthesia, Critical Care, Trauma, and Emergency Medicine. During 1997, the USU Departments of Anesthesiology and Anatomy, Physiology and Genetics (APG), in collaboration with the National Naval Medical Center's Department of Anesthesiology, developed the Clinical Simulator and Patient Simulator Laboratory (PSL) located in the USU Department of Anesthesiology. The PSL has evolved into a fully interactive clinical training laboratory, equipped as an operating room with standard monitoring equipment, instruments, life support system, defibrillator, and complete audio/video recording equipment. Throughout 2002, Numerous groups of students and medical personnel made regular use of the PSL both as a training facility and as a research resource: 1) **USU First Year Medical Students - Cardiovascular Physiology.** During the last four academic years, the PSL has been used as an integral part of the Physiology Course with the entire class of graduate and medical students rotating, in groups of eight, through a cardiovascular simulation. For these students, the simulator is used to complement a teaching laboratory that demonstrates the basic interactions of heart rate, blood pressure, cardiac output, stroke volume, and circulatory resistance; 2) **USU Third Year Medical Students - Two-Week Anesthesiology Rotation.** The simulator helps these students to learn the fundamentals of anesthesia; they practice connecting a patient to external life support. It also helps to ensure that all of the students are presented with a core learning experience; 3) **USU Graduate Students in Nurse Anesthesia in the MSN Degree Program.** USU Graduate School of Nursing (GSN) students undergo basic and advanced simulator training, during which they must handle unique cases with unexpected complications. In the Basic Principles of Anesthesia Course, GSN students use the simulator to practice airway management, interpret EKG patterns, practice line placement, and begin learning anesthesia induction; during the next semester, the simulator is used to expand on these basic skills. Some nurse anesthesia students use the simulator as a laboratory instrument for their required Master Degree Thesis Project; 4) **Walter Reed Army Medical Center (WRAMC) Nurses - ICU Certificate Program.** These nurses are exposed to advanced patient care scenarios that include extensive equipment use and critical medical situation training; 5) **Uniformed Anesthesia Residents from Military Centers in the National Capital Region.** These resident physicians are challenged with complex, specifically-tailored medical scenarios, designed to prepare them for dealing with critical, time-sensitive situations. For example, recent, incoming classes of anesthesia residents from WRAMC were given an extensive trauma training/evaluation with the simulator. When the GSN became concerned that its students were not prepared to deliver anesthesia under austere conditions, because they rarely had an opportunity to work with Field Anesthesia Medicine, the GSN Nurse Anesthesia faculty developed a CD-ROM on field anesthesia, which is now a required part of the GSN Anesthesia curriculum; 6) **Collaborative Efforts with the R. Adams Cowley Shock Trauma Center of Baltimore, Maryland.** In this area, the simulator is used as a test device to evaluate how experienced Emergency Room personnel can respond during critical medical emergencies; 7) **USAF Critical Care Air Transport Teams.** Once a month, USU hosts an Air Force Critical Care Air Transport Team (CCATT) session, during which the three-person team treats the simulator as a real case. Practicing nurses, physicians, and respiratory therapists are involved in the CCATT training scenarios. They receive a call that their services are required, gather their gear, leave their hospital (Malcolm Grow Medical Center), travel to the site of the patient (USU PSL), evaluate the patient's condition, and provide sufficient treatment to ensure successful transport of the patient back to a hospital. Once they leave the hospital, they can use only equipment and supplies that they brought with them.

The patient simulator, featured at: <*www.usuhs.mil/psl/*>, offers many benefits to students and instructors. Without putting a life at risk, students can experience handling rare conditions such as malignant hyperthermia, learn to recognize a wide variety of problems, practice using instruments and equipment, develop decision-making skills, and accumulate first-hand experience with military-specific problems like combat trauma. Instructors can tailor each case to individual students, selecting the type, level of speed, and degree of severity according to the student's level of competence. If the instructor wants to give feedback or additional directions, the lesson can be paused and repeated as many times as necessary. Sessions are recorded and played back, enabling the students, with the instructors, to analyze their performance and to recognize their strengths and weaknesses. Because no life is at stake, instructors can purposely push students beyond their competency levels so they can learn and retain critical lessons. The patient simulator is a valuable addition to the USU curricula, one that will play an expanded role in the future; only a small percentage of the 125 United States Medical Schools have patient simulators. Offering the single simulator in the PSL to teach a class size of more than 165 students requires complex scheduling. During 2000, collaboration between the PSL, the Simulation Center (SIMCEN) at Forest Glen, and the patient simulation facility at the Naval School of Health Sciences (located on the NNMC base) made three simulators available to better accommodate the larger class sizes.

During 2002, the PSL was used over a high bandwidth local area network (ADEN, Advanced Distance Education Network, gigabit Ethernet) to provide a clinical supplement to the didactic anesthesia agent lecture in the Pharmacology Course for the GSN, SOM, and Graduate Education Students. When completed, ADEN will link the PSL, the major lecture halls and classrooms at USU, and the new advanced teaching classrooms at the National Naval Medical Center, with the new optical fiber that connects the National Library of Medicine with the USU SIMCEN.

A Multi-Disciplinary Approach for Teaching Responses to Weapons of Mass Destruction and Terrorism. Beginning in 2000 and throughout 2002, the USU Patient Simulation Laboratory has provided educational experiences for both clinicians and emergency operations personnel in Weapons of Mass Destruction and Terrorist (WMD/T) scenarios during a USU SOM Course, ***The Scientific, Domestic and International Policy Challenges of Weapons of Mass Destruction and Terror***. The Course on WMD/T includes two modules: *Part I, The Emerging Threat of Biological Weapons and Bioterrorism*; and, *Part II, Nuclear, Radiological, High Explosives, Chemical Agents, and Unusual Weapons*. Simulated scenarios have been designed through the cooperation of experts in bioterrorism, chemical warfare, medical effects of radiation, and trauma. Students who take this course include senior military officers, physicians, nurses, lawyers, career politicians, administrators, and logistic personnel. Part I culminates in extensive simulated crisis events including inhalational anthrax, pneumonic plague, marine toxins, and other biological agents. Part II culminates in an intense simulated crisis event involving the terrorist use of chemical, radiological and explosive devices. Non-clinical students, functioning as staff in emergency operation commands, embassies, and/or hospital response centers, manage conflicting information from on-scene observers, other agencies, and media resources. Clinical students, functioning as staff in an emergency room, provide direct care of multiple patients presented by both mannequin-based simulators and human actors. Debriefing entails discussions about performance in: leadership and followership skills; team performance and dynamics; communication skills; data management; logistic support; resource allocation; emergency declaration; assessment and reevaluation of situation(s); medical triage; medical diagnosis; medical treatment; containment of outbreak(s) or agent(s); and, appropriate notification of other officials. These simulated presentations have received overwhelming approval from the participants as documented in the students' course critiques. Course

instructors have requested continuation of past presentations as well as new scenarios. Crisis Management following a WMD/T attack can be taught using patient simulation as the foundation for the event; and, multi-disciplinary input has resulted in simulated events which are overwhelmingly accepted by students. This experience allows personnel who will fill positions involving the management of a WMD/T attack to have their *first time for real* through a simulated educational event.

Virtual Reality Telepresence Surgery System. The USU virtual reality Telepresence Surgery System (TeSS) has gained recognition as an exciting technology training tool. Two USU SOM Class of 1982 graduates, also faculty members in the USU SOM Department of Surgery, have been working with the system since July of 1997. Wearing three-dimensional glasses, students place their hands on a surgical instrument. Peering into a video screen, students at the National Capital Area Medical Simulation Center' (SIMCEN) are able to *touch*, *tug*, *cut*, or *sew* the tissue displayed on the screen; they actually *feel* the movement. The reach-in display table issues a report on how well the student performs during the procedure. The USU Division of Ophthalmology has coordinated with the new Surgical Director at the SIMCEN, who is also a member of the USU SOM Department of Surgery, to enhance the surgeon further with this technology. The new addition to the TeSS system allows a magnified view of the eye, and scales down the hand motions of the surgeon from the magnified view and motions to the real microscopic motions in placing sutures accurately. In addition, tremor is dampened out of the system. *Thus, the surgeon's hands are now smaller and steadier and the surgeon's vision is improved to microscopic levels.*

Establishment of a Center for Informatics in Medicine. Biomedical data and the field of informatics continue to rapidly expand. Processes of knowledge retrieval and decision-making are critical to the future health care provider. In light of technology's role in knowledge development, biomedical informatics has become an essential component of education in the Health Sciences. Following graduation, health care professionals must be able to use biomedical information to define, study, and solve problems.

In 1996, decisions were made to establish a USU Center for Informatics in Medicine to be placed under the Vice President for Teaching and Research Support (TRS) as an interim step toward the creation of an academic Department of Biomedical Informatics. Since that time, the Center for Informatics in Medicine has enhanced USU informatics research and education through introductory computer courses, a workshop on Internet applications in diagnostic pathology, and the development of such diverse areas as web sites on educational technology, military graduate education, and HIV in the military. During 2002, the Center continued to provide computer orientation courses for faculty and students. The Center maintains over 100 educational web sites for the University. Highlighted sites include Telegenetics and the University's on-line student assessment of instruction (for both the SOM and the GSN). Also provided are self-assessment, surveys, quizzes, and examination sites for the following USU activities: the Faculty Senate; the GSN VA/DoD Distance Learning Program; the GSN Nurse Anesthesia and Family Nurse Practitioner options in the GSN MSN Program; and, the SOM Departments of: Anatomy, Physiology and Genetics; Medicine; Pathology; Pediatrics; Pharmacology; Preventive Medicine and Biometrics; and, Radiology and Radiological Sciences. CIM continues to have responsibility for video teleconferencing interface at USU; support is provided to the GSN VA/DoD Nurse Practitioner Program (six sites); the SOM Department of Obstetrics and Gynecology Clerkship Coordinators Meeting (three to five sites); the 8th NASA Medical Topics: Occupational/Environmental Health and Safety Primer and Issues Series; and, a video teleconference between the SOM Department of Pediatrics and Rota, Spain, on a repeating basis.

From 1997 through 1999, a coalition of CIM, the LRC, and the appropriate Dean's Office (SOM or GSN), initiated steps to prepare incoming USU students for the expanded role of informatics in their studies and professional careers. It is recognized that if students are to fulfill the five key roles of health care providers - *lifelong learner*, *clinician*, *educator/communicator*, *researcher*, and *manager* - they must have the benefits of a dedicated biomedical informatics program. In June of 1998, the Dean, SOM, appointed a committee to assist in creating the Department of Biomedical Informatics; during 1999, the USU Board of Regents approved the creation of the new academic department.

> **Informatics Education. The doctor is the most highly trained individual in the health care system, and as such it is the doctor who should be the final judge of the data entered into the electronic medical record. If the medical record is also a research tool, then this gives a new responsibility and value added to the physician. Educating medical students to do this well is a major challenge. Students who are not exposed to this type of thinking and practical training in medical school will be at a disadvantage when it becomes the norm, as it surely will.**
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> \- Journal of Investigative Medicine, Volume 46, No. 8, October 1998, page 345.

The Department of Biomedical Informatics. The SOM's Department of Biomedical Informatics, approved by the Board of Regents during 1999, and provided space through the restructuring of the USU Logistics Division's Self Service Store, is recognized as a basic science department with three areas of specialization: bioinformatics, medical informatics, and education. It is conceived as a resource center to extend and enhance already strong curricula through departmental and interdisciplinary courses that will integrate basic sciences with clinical experiences, offer simulated clinical training experiences, continue current teaching efforts in introductory computing, and focus on student-centered learning through case-based, small-group sessions. It will also serve as a clearinghouse for USU informatics applications, and provide a testing facility for informatics research. The new department will help to ensure that all USU graduates have a foundation in informatics that will support them, as career professionals, in the Military Health System. Specifically, the charter for the new department includes the following: 1) support for the curricula through educational technology; 2) extension of the curricula through biomedical informatics; and, 3) identification and research of innovative informatics applications for military health care.

During 2000 and 2001, the Department of Biomedical Informatics (BID) was charged to act as a resource center to *support* and *extend* the USU medical curriculum and to act as a *focus* for developmental and research activities in informatics. The university-wide operations of the Center for Informatics in Medicine have been retained as the new department's service-based component. Research computing will eventually be reassigned to the Department of Biomedical Informatics and it will no longer be considered a part of the Information Services Management Center (UIS). The Department of Biomedical Informatics will serve as the focal point for USU's academic computing support, spear-heading such activities as sequence analysis, statistical computing, and the student web page pilot project. It will also solve problems associated with the University's widely dispersed informatics initiatives. In the past, attempts to incorporate informatics into USU curricula have been handled by individual departments, leaving the efforts vulnerable to collapse if a key member of the department left or was reassigned. The Department of Biomedical Informatics now serves as a central resource into which all departmental informatics endeavors can be incorporated. Resources for this department will be gradually increased in accordance with the requirements of the SOM and the Military Health System.

Two projects supported by BID, from 2000 through 2001, involved innovative education applications for military health care. A collaboration with the University of California at San Diego (UCSD) brought the National Library of Medicine's Visual Human to the USU campus as part of an application developed at UCSD - *Anatomic VisualizeR*. This 3-D visualization tool for the Visible Human Data Set uses a high end Silicon Graphics workstation for stereoscopic rendering of the data set. Currently, this collaboration has developed six lessons specifically for the SOM and the GSN Anatomy Courses. In August of 2000, the Dean of the SOM charged the Department of Biomedical Informatics to implement a USU Medical Portable Digital Assistant (PDA) Initiative. A working group of students, staff, and faculty devised a staged working plan to deploy the PDA to include: distribution and introduction of the PDA to the SOM students; usage training; communication deployment at USU; communication deployment to the Military Treatment Facilities (MTFs); and, evaluation and refinement of the initiative. The PDA devices were provided to the USU second-year medical students in December of 2000. Studies have confirmed that physicians and medical students are able to successfully incorporate PDAs into their patient care workflow. With the use of a drug information database, clinicians save time, improve knowledge for themselves and their patients, and possibly decrease preventable adverse drug effects. The goal of the USU Medical PDA Initiative is the integration of this technology into the clinical setting. The objectives of the USU PDA Initiative follow: 1) communication while students are at clinical sites (HandDBase and associated databases); 2) clinical encounter log collection (CWebLog developed within the USU Departments of Biomedical Informatics and Medicine); 3) clinical reference material access (qRx(ePocrates) and 5-Minute Clinical Consult; and, 4) clinical calculator availability (MedMath). USU students are responsible for installing five applications and the *CWebLog* channel on their PDAs. During their clerkships, each student is expected to operationally maintain his or her PDA. The PDA serves as a significant option that the USU students have for maintaining a log of their clinical encounters. During 2001, this educational tool was determined to be a complete success and that distribution would be continued in the future. During 2002, the Department continued its support for the PDA Initiative. Personal Digital Assistants have been issued to three classes of SOM and Graduate Nursing students. In January of 2002, the USU PDA Initiative was highlighted at a symposium, *Teaching Old Docs New Tricks*, as part of the 10th Medicine Meets Virtual Reality Conference by **Leon Moore, Ph.D., Professor and Chair, USU SOM Department of Biomedical Informatics,** at San Diego, California. In addition, a paper, written by Doctor Moore and his colleagues, describing the outcomes of the Initiative, *The USU Medical PDA Initiative: The PDA as an Educational Tool*, was submitted and published in the Journal of the American Medical Informatics Association in November of 2002.

During 2002, BID was responsible for the Clinical *CWebLog* (at <*http://cweblog.usuhs.mil/*>), which is used by USU SOM students to document their experiences during their clinical rotations; *CWebLog* is currently used by the seven third-year clerkships. The Department also organizes and teaches MCB-501, *Introduction to Computers for Graduate Students*, with assistance from faculty and staff in the SOM Department of Preventive Medicine and Biometrics and the Learning Resource Center. During 2002, BID established its second course, BID-510, *Introduction to Bioinformatics Computer Skills*. It is anticipated that this course will be offered during 2003. This past year, BID provided organizational and administrative support for two campus-wide educational events: *Research Day 2002* and a lecture and hands-on computer workshop on GenBank and related molecular biology databases at the National Center for Biotechnology Information, which was received quite well by approximately 50 USU faculty, postdoctoral fellows and students. BID continues to support the implementation of a high performance research network at USU (Internet2). Due to an operational connection to Internet2 through the National Library of Medicine, BID hosted demonstrations from two USU laboratories (the Patient Simulation Laboratory and the SOM Department of Radiology and Radiological Sciences) during 2002.

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National Capital Area Medical Simulation Center.

Just as the military has remained a driving force behind the evolution of flight simulation, the Uniformed Services University of the Health Sciences (USUHS) National Capital Area Medical Simulation Center, with its mission to establish a world-class, cutting-edge medical education facility, is definitively ahead of the curve in terms of the utilization of simulation to enhance medical education and readiness. The Center pushes medical simulation into the 21st Century.

- Military Medical Technology, *Locating the Cutting Edge*, Volume 5, Issue 5, 2001, page 32.

Background. In response to new technologies, a requirement for standardization in assessment, and also the rapid downsizing of the inpatient teaching base, United States medical educators have developed a variety of new training and testing tools (trauma and anesthesia simulators, interactive computer-based testing (CBT), distance learning, virtual reality applications, and clinical simulations using "standardized patient" actors (SPs). All of these innovations are being rapidly implemented throughout the United States and are being incorporated as new quality standards for medical education and testing. For example, the National Board of Medical Examiners scheduled the implementation of CBT in the United States Medical Licensing Examination (USMLE) for 1999; and, clinical testing utilizing standardized patients will be implemented as part of the USMLE Step 2 by 2005. Similar requirements are being discussed by the accrediting entities for advanced practice nurses.

These innovations in medical education conform with the 1995 DoD Medical Readiness Strategic Plan, which states: *The use of modern technological advances such as computer simulations and virtual reality has the potential to provide realistic training in battlefield techniques and procedures, and should be pursued to enhance medical readiness training*. In July of 1995, the Dean of the USU School of Medicine, and the Commander of the Walter Reed Army Medical Center (WRAMC) established a committee to plan for a model military medical simulation center for the: 1) development and use of military medicine databases for education and training; 2) simulation, teaching, and measurement of patient interviewing, physical examinations, and diagnostic skills; 3) instruction, assessment, and documentation of readiness skills; and, 4) focused pre-deployment training. The Associate Dean for Clinical Affairs, SOM, was appointed chair of the planning committee and designated to coordinate the project for the University.

Upon the determination of space and personnel requirements by the planning committee, a building on the WRAMC Annex at Forest Glen, Maryland, was identified and approved by the Commander of WRAMC as the location for the center. An initial design study, funded jointly by USU and WRAMC, was completed in September of 1996. In 1997, the concept was briefed to the Assistant Secretary of Defense for Health Affairs and the Surgeons General during a meeting of the TRICARE Readiness Executive Committee (TREC), who referred it to the Defense Medical Readiness Training and Education Council (DMRTEC). Following a briefing on September 25, 1997, the DMRTEC approved the concept and recommended that USU program for funding. In 1998, the President of USU allocated funds for the renovation of the Forest Glen space and the purchase of equipment. The one hundred percent design was completed on August 12, 1998. Funds for renovation, furniture, and security were obligated on September 30, 1998. Program development and the hiring of staff began late in Fiscal Year 1998, and continued throughout Fiscal Years 1999 and 2000. The construction, required for renovation,

was completed during 1999; in October of 1999, the simulation center began training and testing military physicians, nurses, and medical students. On April 21, 2000, the 11,000 square foot National Capital Area Medical Simulation Center (SIMCEN) was officially opened at the Walter Reed Army Medical Center Annex in Forest Glen, Maryland. The SIMCEN was the first single location to integrate the use of virtual-reality technology, computer-controlled mannequins, and human simulated patients under one roof.

Educational Activities. During 2002, the SIMCEN was instrumental in introducing medical simulation technology in support of numerous and distinct medical education programs. ***Since October of 1999, the SIMCEN has supported 57 educational activities: 17 School of Medicine; 10 Graduate School of Nursing; 23 Graduate Medical Education and Operational Medicine; and, 7 research training activities. These educational activities, in turn, supported over 9,249 student encounters.*** At present, the SIMCEN expects to support a similar number of programs and student encounters during 2003.

Since its establishment, the SIMCEN has conducted over 350 tours (35 foreign nations; 70 educational institutions; and, over 200 visits from military, professional, congressional, and private organizations). To date, the SIMCEN is currently serving as a template for more than 35 educational institutions that are attempting to employ similar simulation technology into their own medical education programs. As an example of the growing reputation of the SIMCEN, on February 21, 2001, the USU SIMCEN was included in the Discovery Channel Series, *The Nature of Things*. The segment of the program featuring the SIMCEN was entitled, *Surgeons of the Future*. To date, reports of the SIMCEN's activities and simulation capabilities have led to reports in newspapers and professional journals and in national television programs; some examples include: *The New York Times*; *GeoWissen*; *U.S. Medicine*; *Institute for Electrical and Electronic Engineers*; *American Forces Information Services*; *Military Medical Technology*; *Sea Power*; *Stripe*; *USU Quarterly*; and, television reports in: *NBC Nightly News*; *The Discovery Channel*; and, *The Canadian Broadcasting Corporation*.

Multi-Simulation Techniques Under One Roof. While an increasing amount of professional health care training uses simulation techniques, the SIMCEN is unique among the limited simulation centers found at civilian medical schools in the United States because five state-of-the-art teaching components are included under one roof: 1) standardized patients (*patient actors*); 2) multi-media, interactive, clinical case presentations on LAN or web-based CD-ROMS; 3) virtual reality software applications; 4) medical simulators (computerized mannequin simulators); and, 5) video-teleconferencing/distance education. It uses technology and actors posing as patients to teach students about situations that they may encounter as practitioners, but might not otherwise experience while training in hospital wards. It also allows for a safe transition between simulations in the classroom and real-life situations in the clinic for learning procedural and surgical skills, and for the interaction with patients in sensitive or difficult situations. Another use of the SIMCEN is the instruction of readiness skills and focused pre-deployment training for wartime, peacekeeping, and humanitarian missions.

The SIMCEN is divided into four functional areas: the Administrative Area; the Clinical Skills Teaching and Assessment Laboratory; the Computer Laboratory; and, the Surgical Simulation Laboratory. Each distinct area can sustain educational activities on its own; and, when necessary, integrate the operations of the entire SIMCEN for a more comprehensive approach. All of the functional areas have been designed to maximize students' access to clinical experience in a state-of-the-art learning environment. The SIMCEN's current research activities include validating the educational efficacy of cutting-edge simulation technology. Some examples of the specialized simulation equipment currently being used include: 1) CathSim AccuTouch: Immersion Medical;

2) Vascular Anastomosis Simulator: Boston Dynamics, Inc.; 3) Bronchoscopy Simulator: Immersion Medical; 4) Laparoscopy Simulator: Immersion Medical/Surgical Science; 5) Ultrasound Simulator: MedSimEagle; 6) Human Patient Simulators: MedSimEagle; 7) SimMan Patient Simulator: Laerdal/Medical Plastics Laboratory; 8) Hand-Immersive Workstation: Cie-Med; 9) Head Mounted Display; and, 10) People-Shop Software: Boston Dynamics, Inc.

The Administrative Area. The Administrative Area serves as the hub for the SIMCEN; the area includes both the administrative offices as well as the Video Teleconference (VTC) Room. In addition to daily operational activities such as personnel, budgeting, and resource allocation, the Administrative Area houses the offices of the SIMCEN Director, Deputy Director, and Standardized Patient Trainer. The VTC Room is the SIMCEN's audio/video entry and exit point to the outside world. Equipped with state-of-the-art video teleconferencing equipment, any of the video signals throughout the SIMCEN can be routed through the VTC Room and sent to any connected site in the world. This capability allows individuals at remote sites to participate and to review many of the exercises that take place in the SIMCEN. The VTC Room is equipped with a *telecommuting* conference table, which allows up to twelve students, faculty, or visitors to connect their computer laptops to twelve local area network ports for high-speed Internet access. The table is also outfitted with sixteen headphone ports, allowing various audio exercises which permit instructors and students to simultaneously utilize the same audio files for review and discussion. As a standard conference room, it is also equipped with a slide-to-video converter, document camera, and VCR.

The Clinical Skills Teaching and Assessment Laboratory. The Clinical Skills Teaching and Assessment Laboratory (CSTAL) is designed for teaching and evaluating students in the basic clinical skills of history-taking, physical examination, communication, and interpersonal skills. Here, encounters with simulated patients provide an ideal transition from the classroom to real patient contact. The CSTAL also prepares medical students for the United States Medical Licensing Examination (USMLE). The area consists of four sub-sections: the Orientation Room; the Clinical Examination Room area; the Monitoring Area; and, the Standardized Patient Lounge. The Orientation Room is used to brief the students. A ceiling-mounted, drop screen and LCD projector are used to display PowerPoint and/or video presentations for orientation, registration, and briefing students on specific event protocols. The students are registered for clinical events through a log-in process, which tracks the students throughout their activities at the SIMCEN.

The Clinical Examination Room Area consists of 12 examination rooms, which serve as the simulated clinical environment for the SIMCEN. There are ten typical (120 square feet) examination rooms and two large (220 square feet) rooms with hospital beds that can be used for inpatient and/or critical care simulation. The large rooms are also suited for trauma simulation and small group teaching events. In the Clinical Examination Area, students have the opportunity for encounters with live patients who simulate specific challenges in outpatient, inpatient, or critical care settings. Specifically, individuals, referred to as standardized patients, are hired and trained to simulate scripted clinical cases. These clinical cases may be simulated using performance, make-up, real conditions, or a combination of all three. Each Clinical Examination Room is equipped with two video cameras and microphones that permit encounters to be recorded for subsequent analysis and self-evaluation. Each room is equipped with a computer for the patient; a wall-mounted computer is also located outside of each room for students to use for documentation, before and after, the encounter. Typically, clinical examinations are designed following a directive to achieve specific educational goals. The Standardized Patient Trainers and the Medical Director collaborate with faculty members to create projects that meet stated educational goals.

The Monitoring Area is located at the center of the Clinical Examination Area and allows the Standardized Patient Trainer and faculty instructors to monitor the progress of the clinical examinations. A specialized video router controls 24 videotape decks that track the students as they move from room to room. A touch screen control panel permits cameras to be positioned for optimal imaging. Faculty and students are able to view recorded tapes as if they were in the room, allowing for more detailed observation and more dynamic feedback. The Monitoring Area is also used for training simulated patients.

The Standardized Patient Lounge is a staging area for simulated and standardized patients to prepare for, and to relax following, activities at the Center. This area is required as the *patient actors* often use theatrical make-up to simulate traumatic injuries or other conditions.

The Computer Laboratory. The Computer Laboratory has two sections: the Computer Laboratory itself and an adjacent Control Room. The Computer Laboratory has two primary functions. The first is to identify, develop, and/or use medical education software that contributes towards clinical or medical readiness skills. The second is to provide an environment in which computer-based, interactive clinical examinations can be administered. The Computer Laboratory consists of sixteen Internet accessible workstations that can run a variety of medical educational CD- ROMs. Eight overhead cameras and a one-way mirror between the Computer Laboratory and the Computer Control Room ensure that examinations are properly monitored when the Computer Laboratory is being used for testing. Students use the Computer Laboratory to work with interactive software programs that may be linked to activities occurring in other functional areas of the SIMCEN. Additionally, the Computer Laboratory is designed to meet the specifications of the National Board of Medical Examiners (NBME) for a certified United States Medical Licensing Examination (USMLE). Although not currently certified, the Computer Laboratory assists students in preparing for the USMLE through the use of test preparatory software packages. Students and faculty can also use the computers to learn and evaluate various clinical and surgical skills (e.g., communication, history-taking, physical examinations, and cardiac auscultation) through interactive software applications. Many of the applications are offered using the local area network (LAN). Other applications are web based and accessed via the Internet. The Computer Laboratory also includes a separate Video Teleconferencing/ Advance Distributive Learning (VTC/ACL) capability that serves as the audio/video entry and exit point to the outside world. Video signals from anywhere in the SIMCEN can also be viewed via a fiber optic connection and can be transmitted worldwide via VTC or the Internet.

The Computer Control Room is adjacent to the Computer Laboratory; it is the nerve center for the SIMCEN. All data, voice, and video signals are fed through the Control Room and can be routed to other areas in the SIMCEN accordingly. The Control Room also houses several departmental servers that handle the current requirements of the Center. During testing, the Control Room operates as a monitoring station for instructors, allowing overall viewing of the Computer Laboratory through a one-way, mirrored window or specific viewing of the individual workstations from the overhead camera.

The Surgical Simulation Laboratory. The Surgical Simulation Laboratory (SSL) uses virtual reality and a full-scale operating room mock-up to provide highly realistic scenarios for surgical training. This area is the first site approved to investigate teaching the surgical skills practicum for the Advanced Trauma Life Support Course through the use of computer-based simulators and plastic models rather than anesthetized animals or cadavers. *During the past year, the SIMCEN conducted the Nation's first Advanced Trauma Life Support (ATLS) Course using virtual-reality based simulators, computer-controlled mannequins, and medical models instead of*

animals. The Operating Room is furnished to look and feel like a full-scale operating room. In addition to the typical Operating Room equipment, the room holds intravenous catheterization, bronchoscopy, endoscopy, and diagnostic ultrasound simulators designed to provide highly realistic scenarios for trauma, anesthesia, and surgical training. The Operating Room can be configured to match the conditions of a standard Operating Room, an Emergency Room, or an Intensive Care Unit. Here, a single human patient simulator responds to various drugs and interventions. Driven by two computers, the human patient simulator can be pre-programmed with patient characteristics or variables such as age, anatomy, and physiology factors depending upon the training event. Students are faced with real-life situations as the human simulator breathes out Carbon Dioxide, and breathes in various gases, depending upon the scripted clinical procedure. Beginning in 2000, when the second mannequin-based simulator was installed at the SIMCEN, through 2002, the two-day introduction to the SOM third-year surgical clerkship has included a day at the Surgical Simulation Laboratory operating room (OR) at the SIMCEN. Courses taught in the OR include an Introduction to Surgery Course for third-year SOM students, and an airway management workshop taught by the GSN Nurse Anesthesia faculty for providers at local Military Treatment Facilities. The OR is featured at the SIMCEN web site: (*http://simcen.usuhs.mil/Surgery/OR/index.html*).

The simulator has five palpable pulse areas and will exhibit the appropriate physiologic reactions in response to various intravenous or inhaled agents. Presently, there is a capability for 80 different drugs to be *virtually* administered by various computer microchips. The simulator responds to the type and amount of these drugs according to instructor-determined, pre-programmed patient variables. In the Operating Room Control Room, a two-way headset and a one-way mirror into the Operating Room allow instructors to communicate with the Operating Room Coordinator. From the Control Room, the coordinator can change patient variables on the computer and even speak into a hidden microphone feed on the simulated patient in order to bring more realism to the scene.

The Virtual Reality Room, which is funded, in part, by the Association of Military Surgeons of the United States (AMSUS), develops computer-based surgical simulators and software applications with 3-D, haptic feedback features, designed to meet the educational objectives of USU. Two functional directives of the Virtual Reality Room are research that advances simulation procedures and harnesses the capabilities of existing technologies. In the Virtual Reality Room, state-of-the-art computer-based equipment enables students to view medical objects in two or three dimensions. *A haptic interface allows the computers to re-create the tactile sense, which permits users to touch, feel, manipulate, create, and alter simulated 3-D anatomic structures in a virtual environment*. Here students can teach themselves, at their own pace, and they can feel comfortable about making mistakes as well as repeating an exercise. The Virtual Reality Room is equipped with simulators for Vascular Anastomosis, Pericardiocentesis, a Diagnostic Peritoneal Lavage Unit, and a hand-immersive environment for on-going research. Both the Pericardiocentesis and Diagnostic Peritoneal Lavage Simulators were developed in the Virtual Reality Room. These two simulators are the first of their kind and, they are unique to the SIMCEN.

Examples of Recent Achievements. During 2002, the USU/SIMCEN faculty and staff provided numerous presentations, tutorials, posters or exhibits at the following professional meetings: the Association for Medical Education in Europe; the Association of American Medical Colleges; the American Medical Association; the American College of Surgeons; the Association of Military Surgeons of the United States; the Association of the United States Army; Advanced Technology Applications for Combat Casualty Care; Medical Image Computing and Computer Assisted Intervention; the International Society for Optical Engineering; and, the Association of Standardized Patient Educators. A list of published papers and the tutorials can be found at the SIMCEN web site home page, <*http://simcen.usuhs.mil*>.

Telementoring and telesurgery systems can provide a solution when expertise for treating conditions caused by highly toxic or contagious contaminants is not available. Previous telesurgery attempts have been limited by the necessity of dedicated, high-bandwidth links between master and remote units. The recent development of the Internet2 High-Bandwidth Network is a potential solution to the problem. Internet2 is a consortium of more than 190 universities, in partnership with industry and the government, to develop advanced network applications and technologies. USU is a member of the consortium. *During 2002, the Internet2 Initiative with the National Library of Medicine was completed providing USU with its first fully-operational, dedicated I-2 workstation. Faculty members in the USU SOM Department of Obstetrics and Gynecology are now reviewing a genetic counseling I-2 multi-media software application* provided by Dartmouth.

The SIMCEN's *beta-testing* collaboration with Surgical Science led to the development of a more user-friendly, robust software application for developing laparoscopic procedure skills. SIMCEN and USU faculty contributions led not only to software improvements but also provided opportunities to purchase the finished products at a reduced cost.

The SIMCEN collaboration with the University of Maryland resulted in further refinements to the existing needle insertion devices currently used in several medical simulators. Future collaboration will focus on developing more realistic haptic or sensory feedback properties. This work is linked to enhancing the capabilities of the two needle insertion devices developed by USU/SIMCEN faculty in the Virtual Reality Room and the Pericardiocentesis and Diagnostic Peritoneal Lavage Simulators. As mentioned, these simulators led the American College of Surgeons to approve, for the first time, an Advanced Trauma Life Support (ATLS) Certification of surgical skills without the use of animals or cadavers. As a result, *the SIMCEN conducted the Nation's first ATLS Course using virtual-reality based simulators, computer-controlled mannequins, and medical models instead of animals*.

In a collaborative partnership with the Walter Reed Army Medical Center (WRAMC), Johns Hopkins University, and the Centers for Disease Control (CDC), *the SIMCEN participated in the development of an Anthrax Vaccine Immunization Provider Response Program*. The objective of the project was to develop an educational product to guide medical personnel dealing with patient concerns about anthrax immunization.

And, an initiative completed during 2002, was *the development of a series of Clinical Case Scenarios developed under contract with the National Board of Medical Examiners (NBME)*. These cases, along with others developed in other centers, may be used by the NBME as part of Step 2 of the United States Medical Licensing Examination (USMLE) in the near future.

Future Initiatives. The SIMCEN is currently planning for the development of a Computer-Aided Virtual Environment (CAVE). The CAVE is an immersive, virtual reality environment suitable for simulating mass casualty, triage and/or bio-chemical training scenarios. Students would be physically immersed in a virtual environment with patients, which can be either virtual, live, or high fidelity computer-driven human patient simulators. Students would be exposed to a variety of scenarios, and equally important, participate in a scenario where they can respond as an individual provider or as a member of a medical team. Further, the training scenarios could be linked via I-2 to other geographic locations so that other responders can participate in the same training scenario. The CAVE would be established in adjacent space to the SIMCEN. USU has already obligated funding to plan, design, and renovate the adjacent space; the Navy Public Work Center is coordinating with the USU Facilities Division and the SIMCEN to manage these efforts. SIMCEN staff have also collaborated with the University of Michigan and the Army Research Laboratory in Aberdeen, Maryland; as both have on-going CAVE projects.

And, in an initiative proposed by the American Institute of Research, the SIMCEN will also participate in a project to demonstrate the practical application of hand-held wireless devices such as the use of portable digital assistants (PDAs) in a clinical setting. This project will be the second phase of the demonstration, which began by using PDA devices at the Walter Reed Army Medical Center and at other United States Army Medical Centers.

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Research Administration.

We will optimize our role in military and federal medical education and research.

- Goal 5, USU Strategic Plan, 2002.

Background. The Office of the Vice President for Research was established at USU to facilitate, promote, and oversee the research activities at USU. The position of the Vice President for Research evolved through recommendations from the USU faculty. Following an extensive search, **Ruth Ellen Bulger, Ph.D., was selected as the first Vice President for Research and was appointed during March of 1996**; she served in that position until March of 2000, when she resigned as Vice President to focus on teaching and her many other professional commitments. *Michael N. Sheridan, Ph.D., Professor of Anatomy and Associate Dean for Graduate Education, subsequently served in the position while a national search was conducted*. **Steven Kaminsky, Ph.D., was selected as the second Vice President for Research and assumed the position in March of 2001.**

The Office of Research (REA) currently consists of fourteen full-time staff (thirteen civilians and one Army officer) who report to the Vice President for Research. The Office of Research reviews, monitors, and coordinates approvals for all matters dealing with research at the University, to include the following: identification of potential funding sources; pre-award review and administration; grant awards and receipts; post-award administration; administration of the human research protection program, to include review and approval by the University's Institutional Review Board (IRB); and, the monitoring of all regulatory compliance requirements.

The Office of Research also provides coordination and support for the Graduate Student Colloquium and the Faculty Senate Research Day. The 9th Faculty Senate Research Day was held at USU on May 15-16, 2002. This year's theme was *The Post Genomic Era: Implications for Research, Education, and Public Health*. The two-day event brought approximately 250 individuals to the USU campus, including researchers from affiliates such as the National Naval Medical Center, the Walter Reed Army Medical Center, the Armed Forces Institute of Pathology, the Washington Hospital Center, and the Walter Reed Army Institute of Research. This year's events included internationally known keynote speakers as well as presentations of on-going research by USU faculty, USU graduate students, and investigators from the above-listed affiliated institutions. Workshops and symposia are also sponsored by REA on topics of interest to the USU community.

The Office of Research provides service to three communities: the University as an institution; USU faculty and student investigators; and, more than 100 funding entities that support research at the University. The REA staff manages the intramural grant program and provides administrative support for the SOM Research

Merit Review Committee, which conducts peer review of all faculty applications for intramural funding. During 2002, the USU Intramural Program was funded at $2.7 million with 125 intramural faculty projects in place; of those research projects, the majority consisted of militarily relevant protocols, with 52 clinical research awards, and three projects in areas of educational research. Standard USU awards for militarily relevant research were typically funded at 90 percent of the applicant's budget request; clinical research awards were usually supported at 90 percent. As part of the University's on-going efforts to encourage young faculty, new assistant professors with a standard award in either category received 90 percent of their budget requests. The 2002 USU student research programs supported the work of 8 medical students, 16 students in the Graduate School of Nursing, 21 candidates in the Master of Public Health Program, and 14 candidates in the Ph.D. or Dr.P.H. Graduate Education Programs. Student applications were reviewed by a faculty committee in each student's area of study and by the appropriate Dean.

Similarly, in 2002, the Office of Research provided oversight for nine multi-site, Congressionally-funded research programs which totaled $59.9 million: the TriService Nursing Research Program; the Center for Prostate Disease Research; the Defense Brain and Spinal Cord Injury Program; a Coronary Artery Disease Reversal Program; the Clinical Breast Care Program; the Post-Polio Research Program; Programs for Comprehensive Neuroscience and Hepatitis C; and, the United States Military Cancer Institute. Together, these programs support approximately 150 individual research projects conducted at USU and elsewhere.

Extramurally funded research at USU was funded at a total of $53.3 million during 2002 and included hundreds of projects supported by Federal agencies such as the National Institutes of Health (NIH), the National Science Foundation (NSF), the Department of Energy (DOE), the United States Army Medical Research and Materiel Command (MRMC), and the Office of Naval Research (ONR). These investigations explored a variety of scientific areas, including basic biomedical issues central to the mission of the Military Health System: the mechanisms, transmission, and control of a wide range of infectious diseases; a variety of crucial topics in combat casualty care, operational medicine, and health education and promotion; Defense women's health issues; and, the development of new methods for the diagnosis and treatment of medical problems faced by the United States military and their dependents. *Thus, the total of the USU Intramural, Extramural, and Congressional Research Programs was approximately $119.9 million in 2002, with a total of 414 active projects and 533 publications*. (See Appendix C for examples of the achievements and recognition awarded to individual USU researchers.)

USU Researchers Investigate Diseases of Special Interest to the Military. A wide array of research protocols at USU investigate specific disease threats faced by the Uniformed Services during peacetime and deployment. These projects all supported the essential military mission by advancing the understanding of both the transmission and the internal mechanisms of a spectrum of pernicious and/or common diseases that may be faced by warfighters. This research is expected to provide equally important applications in the growing effort devoted to homeland defense. The understanding gleaned by USU researchers will open avenues to better control, diagnosis, and treat natural and man-made biological threats both at home and abroad. Also, malaria is endemic in many areas where the military deploys its fighting forces; technological advances conducted by USU researchers have made it possible to predict mosquito population levels and transmission risk for a range of mosquito-borne diseases such as malaria, even within precise areas and timeframes. By using satellite imaging and remote sensing devices, researchers assist in predicting high-risk locations for the occurrence of malaria and similar diseases. These predictions focus disease control operations and conserve scarce finances as well as human resources. Infectious diseases studied at USU have included, or continue to include, the following:

malaria; Venezuela equine encephalitis (VEE); leishmaniasis; E. coli, H. pylori; and, bartonellosis. Examples of additional disease-related research have included: identification of previously unknown bacterial virulence genes; and, analysis of the genesis and pathology of various types of virus.

USU Research and Combat Casualty Care. Research conducted by USU faculty in the area of combat casualty care continues to enhance the provision of rapid diagnostic methods and treatments that ensure military readiness, excellent care for deployed forces, and the rapid return of the injured and sick to active duty. Protocols that deal with combat casualty care have focused on the following areas/examples: the exploration of the pain-control mechanisms that underlie established treatments such as morphine; the provision of groundwork for effective strategies to limit nerve damage and to encourage nerve regeneration; and, the identification of possible causes of life-threatening complications resulting from the combination of exertion and injury common under heavy battle conditions.

USU Research Strengthens Military Operational Medicine. USU researchers in the area of operational medicine advanced the understanding of, and the ability to manipulate, the physiological mechanisms of stress and immunity; human sleep and seasonal cycles; and, the neurological changes underlying short- and long-term memory. USU research will eventually: enable warfighters to stay awake longer with fewer detriments to performance (recognized by *Science* as one of the top ten scientific breakthroughs of 2002); lead to better strategies for enhancing and preserving memory and reasoning capabilities under battlefield conditions; help the Uniformed Services and Veterans Affairs to understand, and ultimately prevent and treat, neuropsychiatric illnesses such as depression and post-traumatic stress disorder; and, assist deployed troops and their families to better prepare for, and contend with, significant, common stressors of military operations.

Enhancement of Administrative Services. During 2002, REA extended its regular meetings with the Research Administrators, who represent the USU departments, centers, and activities, to include a monthly request that each Research Administrator provide a list of the applications likely to be submitted within a short timeframe. Compiling this monthly list has helped REA, department support staff, and faculty investigators to coordinate their efforts and to enhance the quality and timeliness of the submitted applications. The REA staff and Research Administrators continue to meet regularly to: identify and resolve problems; examine the processes for the submission, review, and administration of grant applications; and, strengthen their working relationships. REA staff also meet at least monthly with the Sponsored Project Office of the Henry M. Jackson Foundation for the Advancement of Military Medicine, which provides administrative services for more than 80 percent of USU's extramurally funded projects.

During 2001, the Vice President for Research conducted a series of weekly workshops that provided sustained, focused instruction and peer critiques for junior and mid-career faculty engaged in writing applications for extramural funding. Workshop sessions addressed specific skills and expertise required to complete each section of the typical grant application, to include: writing the abstract for the grant proposal; summarizing the scientific background for the area of interest and proposed approach; developing the hypotheses and specific aims; presenting preliminary results; outlining experimental design and methodology; and, conducting a statistical analysis. Two workshops were conducted in 2002; and, four workshops are planned for 2003, which will include a special series for post-doctoral fellows.

Institutional Review Board. The Human Research Protections Program and the USU Institutional Review Board (IRB) jointly ensure the protection of human volunteers for research at USU and its affiliates from research-associated risks. The Program's administrative staff, which functions as a part of the Office of Research, reviews each protocol with human subjects that is conducted at the University or by a member of the USU faculty or student body to ensure that: 1) the research complies with the regulations and standards of DoD and other Federal entities, as applicable; 2) potential risks to the subjects are minimized by the research design and do not outweigh the actual benefits of participation; 3) appropriate processes for obtaining informed consent from potential subjects are in place, adequate to the backgrounds of the volunteer population as well as the research design; processes are not coercive or disrespectful of the needs of the individual volunteers; and, 4) the documents produced during the consent process and the conduct of the research protocol are maintained in accordance with standard scientific practice and Federal regulations.

Each research project, following staff review and recommendations, is presented to the full IRB at its monthly meetings. In 2002, the IRB reviewed and approved the following: 211 initial proposals for human subject research; 120 amendments to protocols already underway; and, 119 annual or semi-annual reviews of previously approved projects. A second IRB coordinator was added to assist with the growing number of reviews and approvals, particularly as required for the Congressional programs overseen by USU. The IRB meets at least once a month, with additional, *ad-hoc* meetings, as required, over the course of each year.

The USU IRB consists of 21 voting members, including eight physicians, one basic scientist, five social/behavioral scientists, two nurses, one epidemiologist, the USU Chaplain, the SOM Commandant, an enlisted soldier, and one other representatives from the non-scientific USU community. Eighteen of the 21 members are drawn from the USU faculty and staff; two are employed by NIH; and, one is assigned at WRAMC. Three *ex officio*, non-voting members attend each meeting and provide additional support: the Director for Human Research Protections Program (who also serves as the IRB's Executive Secretary); the Assistant Vice President for Research; and, a member of the USU Office of the General Counsel.

A separate IRB for the United States Military Cancer Institute (USMCI), formally approved on January 14, 2002, continues to develop as the USMCI's protocols acquire scientific approval at the member institutions. The USMCI IRB draws its members from the University and its affiliated medical centers: the National Naval Medical Center (NNMC); the Walter Reed Army Medical Center (WRAMC); the Armed Forces Radiobiology Research Institute (AFRRI); and, the Malcolm Grow Medical Center (MCMG). The USMCI IRB ensures that its member institutions and their physicians, dentists, nurses, and other health care providers pursue oncology research in compliance with Federal regulations and accepted ethical standards of scientific conduct. Protocols conducted under the auspices of the USMCI are designed not only to improve the quality of patient care but also to contribute to better staff education and training.

Positive Reviews of the USU IRB Program. A review of the USU IRB Program was conducted during July of 1997, by the Director, Scientific Activities, Office of the Assistant Secretary of Defense for Health Affairs. *This review found no significant deficiencies* and the REA staff has since been expanded to accommodate the growing number of protocols requiring IRB review. In addition, the Food and Drug Administration (FDA) has cognizance over Federal IRB Programs where research is conducted with investigational new drugs and devices. Because some USU research falls into this category, the FDA has the authority to audit the entire USU program. On March 22 and 23, 1999, an FDA inspector conducted a two-day audit of the USU Human Use Program and

the USU IRB. The audit included a review of IRB minutes from 1997, 1998, and 1999, plus a random sampling of the IRB files on protocols with a greater than minimal risk to human subjects. *The USU IRB Program was found to be in full compliance with the governing regulations (Title 21, Code of Federal Regulations, Parts 50 and 56) with no need of corrective action by the Division of Scientific Investigations, Office of Medical Policy, Center for Drug Evaluation and Research of the FDA.* During 2001, in addition to the previously awarded Assurance of Compliance from DoD, *USU also obtained a Federal-Wide Assurance from the Department of Health and Human Services (HHS).* Each assurance sets out USU's institutional responsibilities in the protection of human subjects to include: 1) standards for the initial and continuing review of research protocols; 2) requirements for the prompt reporting of information required by each Federal agency, to include the suspension or termination of any study due to non-compliance with regulations or unexpected, serious harm to a research volunteer; and, 3) guidelines for the appropriate training and educational requirements for IRB members, USU investigators and administrative staff. *The audits conducted by the Director of Scientific Activities for the Office of Health Affairs in July of 1997, and the FDA in March of 1999, combined with the Assurance of Compliance obtained from DoD and the Federal-Wide Assurance from HHS, have validated the outstanding support rendered by the USU Human Research Protections Program and the USU IRB.*

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The 9th Faculty Senate Research Day and 2002 Graduate Student Colloquium. The 9th Annual Faculty Senate Research Day and Graduate Student Colloquium were held at USU on May 15-16, 2002. This year's theme was *The Post Genomic Era: Implications for Research, Education, and Public Health.* The two-day event brought approximately 250 individuals to the University; attendees included researchers from affiliates such as the National Naval Medical Center (NNMC), the Walter Reed Army Medical Center (WRAMC), the Armed Forces Institute of Pathology (AFIP), the Washington Hospital Center, and the Walter Reed Army Institute of Research (WRAIR). This year's events included internationally known keynote speakers as well as presentations of on-going research by USU faculty, USU graduate students, and investigators from the above-listed affiliated institutions. This year's three symposia, workshop and poster presenting sessions addressed: career development strategies for graduate students; emerging issues in proteomics and bioinformatics; technology transfer; and, ethical issues in research with human subjects. A special panel on bioterrorism featured: **The Honorable Saxby Chambliss, former member of the United States House of Representatives from Georgia; United States Ambassador, The Honorable Donald A. Mahley; Debra Krikorian, Ph.D., United States Army Medical Research and Materiel Command**; and, faculty from both USU and AFRRI.

During the Research Day Dinner, held on May 15, 2002, two awards were presented to those faculty members who were determined to have made significant contributions to research during the past three years. The selection process included a review of nominations from the USU faculty by a subset of the USU Merit Review Committee, which selected the two recipients. **Ignacio Provencio, Ph.D., Assistant Professor, USU SOM Department of Anatomy, Physiology and Genetics,** received the *Henry Wu Basic Science Research Award*; and, **Andre Dubois, M.D., Ph.D., Research Professor, USU SOM Department of Medicine,** received the *James Leonard Clinical Science Research Award.*

The 2002 Graduate Student Colloquium, established in 1980, featured: a career workshop organized by the students; platform and poster presentations given by students; and, the *John W. Bullard Lecture.* The Career

Development Workshop consisted of seven presentations by accomplished individuals working in various aspects of the scientific enterprise. They ranged from medical school faculty, to scientific review administrators, to patent lawyers involved with biotechnology, to a study director at the National Academy of Science. Nine scientific poster presentations by graduate students were followed by a lunch, which included the Bullard Lecturer and six oral presentations by students. The *2002 Bullard Lecture* was presented by **Marc K. Jenkins, Ph.D., Professor, Department of Microbiology, University of Minnesota,** on *Tracking the Generation of Memory CD4T Cells in vivo*. Awards were given for the best poster and platform presentation.

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USU Center for Laboratory Animal Medicine, Veterinary Surgery Division. On November 5, 2002, the USU Center for Laboratory Animal Medicine received confirmation of continued accreditation from the Council on Accreditation of the Association for the Assessment and Accreditation of Laboratory Animal Care, International (AAALAC). AAALAC is a private, nonprofit organization that promotes the humane treatment of animals in science through a voluntary accreditation program. AALAC's voluntary accreditation process is a way in which animal research programs demonstrate that they not only meet the minimum standards required by law, but are exceeding those standards to achieve excellence in animal care and use.

> **The Council on Accreditation of the AAALAC has reviewed the report of the recent site visit to USUHS... The Council commends you and your staff for providing and maintaining a high quality program of laboratory animal care and use. Especially noteworthy were the commitment and dedication of personnel at all levels, the Institutional Animal Care and Use Committee's program oversight and monitoring, the outstanding husbandry practices, and the well maintained facilities. In addition, development of the rodent breeding database and efforts focused on environmental enrichment were commendable. The Council is pleased to inform you that the program conforms with AAALAC International standards as set forth by the Guide for the Care and Use of Laboratory Animals, NRC, 1996. Therefore, FULL ACCREDITATION shall continue.**

Background. During 2002, the USU Veterinary Surgery Division (VSD) of the Center for Laboratory Animal Medicine provided full surgical training support to qualified USU faculty supporting both teaching and research protocols. VSD is composed of two large teaching laboratories and two operating rooms used chiefly for research protocols involving non-rodent species. These areas are equipped with modern surgical and surgical support equipment, which allows comprehensive care and monitoring. Support areas include separate instrument cleaning and sterilization rooms, a surgeon's scrub area, and a large multi-purpose room used for both pre-operative procedures and post-operative recovery. During 2002, a third operating room was utilized by a LASER research team for special procedures.

Current Activities. A variety of significant teaching laboratories were conducted during 2002 by the VSD. These laboratories provided students with invaluable experience working with biological tissue; and, the laboratories were frequently reported by the medical students to be one of their most valuable learning experiences. The teaching laboratories provide the students with the opportunity to gain experience in basic surgical skills and the proper handling of tissue among other critical techniques. These skills help students to more effectively

function during their future residencies and in the practice of medicine. Also, in the event that as military physicians they will be deployed under battlefield conditions, the familiarity and heightened skill level afforded by the teaching laboratories can prove to be of significant value. Students are exposed to a combination of training techniques prior to specific training on the use of animals. The use of computer simulation and mechanical surgical simulation devices complements the students' surgical training experiences and also reduces the number of animals required to provide the necessary training. Navy corpsmen staff the VSD; all are trained human surgical technicians, which enables a solid professional relationship between veterinary surgery staff members, surgeons, and students. The corpsmen also contribute significant preoperative and monitoring skills to all of the teaching laboratories of the Multidiscipline Laboratories. An assignment to USU has been found to tremendously broaden the experience of the corpsmen and to afford a unique training opportunity through the combination of human surgical skills with current veterinary technology. Also, co-located with the surgical section are radiology support services that include a human hospital GE Advantx X-ray unit equipped with fluoroscopy. This equipment allows advanced diagnostic capabilities for the central animal facility and serves as a tremendous resource for USU investigators. In November of 2002, a water-softening system was installed in the LAM cage washing area; this system now assists in decreasing the build-up of harmful mineral deposits in the cage washing machinery, thus extending the *life* of this critical equipment. In addition, the old flooring was removed in the G200 area (area that houses the large animal species) and replaced with epoxy-resin flooring, which will allow for enhanced sanitation practices and ensure a safe and comfortable environment for the research animals hosted in this area.

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USU Barrier Facility. A rodent barrier facility occupying approximately 2,558 square feet within the USU Central Animal Facility is capable of housing 6,000 mice. This resource was conceived and developed by the Vice President for Teaching and Research Support and veterinarians from the Center for Laboratory Animal Management, along with input from the USU Institutional Animal Care and Use Committee, and interested USU investigators. The facility, opened during 1999, is equipped to accommodate the needs of USU investigators whose protocols require that research animals (rodents) be kept under ultra clean conditions. Ultra clean conditions are necessary to reduce the chance of pathogen exposure, which could have devastating effects on research goals and potentially result in the waste of animal lives, investigators' time, and related resources. The facility is also intended for the housing of transgenic mice (mice that have been altered genetically to simulate disease states or modified biochemical conditions).

The Barrier Facility includes one full-time technician who is specifically trained in transgenic techniques and is capable of producing transgenic animals; the technician daily monitors animals housed within the barrier and is responsible for: 1) written entry procedures (which include the use of personal protective equipment) and the restriction of non-essential personnel; and, 2) the conduction of training on barrier-housed animal handling procedures. Equipment acquisitions in support of the barrier include ten additional ventilated cage racks and a computerized, controlled-rate freezer for the cryopreservation of crucial reproductive elements (embryos, eggs, and sperm). The controlled-rate freezer is a state-of-the-art piece of equipment that allows the long-term storage of frozen mouse embryos. Once a transgenic or other valuable mouse line is developed, the cryopreservation technique keeps that line viable without having to house large numbers of breeding animals to maintain the line. When a particular mouse line is required, the embryos are thawed, implanted, and normal breeding of the line continues. This saves a tremendous amount of space and resources that would normally be required for maintaining a breeding colony. *The capability to produce transgenic animals for investigators is a research tool that is not available at other Department of Defense research facilities in the National Capital Region.*

The barrier is equipped with a limited access card key system and consists of four sections: an autoclave area with two physically separate rooms; five clean animal holding rooms; one procedure room; a laboratory for transgenic surgical and manipulative procedures; and, a storage area. One of the animal holding rooms can be used as a quarantine room for animals awaiting final clearance of health status. All barrier mice are housed in specially ventilated cage racks, such that the animals are only exposed to highly filtered (sterile) air. All supplies (caging, bedding, food, and water) are sterilized prior to entry or use in the barrier. The transfer of mice from soiled caging to clean cages is performed in a positive pressure laminar flow cabinet, which further ensures protection from pathogenic agents. The USU barrier has the distinction of being free of rodent diseases due to the significant efforts of the USU staff.

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Implementation of Safety Strategies. The overall mission of the USU Center for Environmental Health and Occupational Safety (EHS) is to provide a safe and healthy environment for employees and the general public. The center consists of a highly trained team of professionals dedicated to preventing/minimizing environmental and safety concerns through the provision of proactive, prompt, and reasonable health and safety recommendations for all personnel assigned at USU. Primary areas of concern, during 2002, were centered on protecting the USU community from chemical, biological, radiological, and physical hazards.

The Center is composed of three divisions: the Occupational Medicine Division; the Radiation Safety Division; and, the Bioenvironmental Engineering Division. Significant activities were conducted, during 2002, to improve the overall safety climate of the University and a number of long-term goals were realized.

The Establishment of two University Committees on Safety and the Management of Lasers. Two long-standing deficiencies were corrected, in 2002, with the establishment of two formal University committees: the Safety Committee and the Laser Safety Committee. The University has long had a number of key elements for its safety program reviewed by various committees; but, there had never been an over-reaching entity to manage this effort. In a similar manner, USU did not have a formal entity for reviewing the overall management of hazardous lasers. A USU committee, consisting of representatives from the major laser users and the EHS staff, was created to meet this need and to meet the guidelines, rules, and regulations regarding the use of lasers.

EHS Secures on-going CDC Select Agent Registration and Nuclear Regulatory Commission Registration for the USU Community. The Center for EHS is responsible for managing a number of permits, licenses, and agreements established between the University and its regulating agencies. Two of these documents were revised and renewed during 2002: the CDC Select Agent Registration (three years); and, the Nuclear Regulatory Commission (NRC) Irradiator License (ten years). Both of these documents represent significant efforts on the part of EHS and allow the University to continue to conduct research in these vital areas. The Center is also responsible for providing the University with safe operating instructions covering the following areas: Biohazard Suite Management; Smoking; Minors Working in the University; and, Incident Reporting. All were updated or established, during 2002, through coordination with various USU activities. The Radiation Safety Division is producing, in coordination with the USU research community, a comprehensive radiation safety laboratory notebook that will organize and provide all of the required forms, instructions, permits, contact information, and other

relevant material in one location, consistent from lab to lab, across the USU campus. All of the EHS Divisions provide training on various topics; efforts are made to continually improve this training and to explore as many alternate training methods as possible.

The day-to-day management of EHS efforts requires a tremendous level of organization, documentation, and interaction with various activities throughout USU. To assist in this effort, the Center purchased a comprehensive data base management system, which was an expansion of the current system in use by the Radiation Safety Division. The program not only provides a structure to the EHS efforts, it also contains a web interface that allows Principal Investigators to: review their chemical, biological, and radioactive material inventories; maintain the training status of employees; and, request services. Other significant efforts include the support required to bring Building 139 on board, which required amending the NRC license to include Building 139 as an authorized radioactive material-use location and establishing chemical and radiological waste and evaluation processes for use by the personnel housed within Building 139. There has also been an increased focus on fire and physical safety concerns throughout the USU laboratories.

The EHS Occupational Health Division has been working diligently with the USU community reference anti-smoking efforts and the installation of self-reading blood pressure equipment. This proactive approach to problem solving was well received during 2002. The Center for EHS also experienced a major turn-over of senior staff during the past year, to include: the Director, EHS; the Director of the Bioenvironmental Engineering Division; and, the departure of enlisted personnel. Despite these disruptions, the Center was able to focus on its mission and successfully meet the needs of the USU community. Senior staff, such as **Christopher Holland, M.D.,** and **Lieutenant Colonel Mark Bower, Director, EHS,** were asked to provide expertise to various Federal entities. Doctor Holland was selected to serve as the Chair of the Expert Medical Panel on Biohazards by the United States Environmental Protection Agency; and, he provided medical support for the Anthrax Project at the Anthrax Center in Washington, D.C. LTC Bower conducted audits of the radiation protection programs at the Walter Reed Army Medical Center, the Armed Forces Radiobiology Research Institute, and the Center for Health Promotion and Preventive Medicine. He was also a presenter in the *Medical Effects of Ionizing Radiation (MEIR) Course* at Fort Lewis, Washington.

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SOM Department of Psychiatry Sponsors a Collaborative Relationship with the Stanley Laboratory of Brain Research.

> **The Stanley Brain Bank, part of the Stanley Medical Research Institute, is made possible through the generous funding of the Theodore and Vada Stanley Foundation... The Brain Bank is part of the School of Medicine Department of Psychiatry of the Uniformed Services University of the Health Sciences and is located on the grounds of the National Naval Medical Center in Bethesda, Maryland. The Stanley Brain Bank now has 500 specimens; in addition to using the tissue for its own research, the Stanley Brain Bank has sent over 100,000 sections and blocks to 120 research groups around the world. At most national and international research meetings on schizophrenia and bipolar disorder, at least half of the presentations and posters on neuropathology reflect work utilizing tissue from the Stanley Brain Bank.**
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> - **E. Fuller Torrey, M.D., Executive Director, the Stanley Foundation Research Programs on Schizophrenia and Bipolar Disorder**, *Stanley Brain Bank Newsletter*, No. 10: Spring 2002.

Background. In February of 1999, during a ribbon-cutting ceremony, the University President welcomed the Stanley Laboratory of Brain Research to the SOM Department of Psychiatry. Through a collaborative arrangement with the University, the School of Medicine, and the Stanley Foundation, the USU community now has access to the Stanley Laboratory's brain specimens from individuals who suffered from diseases such as schizophrenia, bipolar disorder, and severe depression - the largest of such collections in the World. The Stanley Foundation Brain Bank and Neuropathology Consortium is made possible through funding from the Theodore and Vada Stanley Foundation. Its purpose is to collect postmortem brain tissue and to distribute it, without charge, to research groups working on schizophrenia and bipolar disorder (manic-depressive illness).

Current Activities. **E. Fuller Torrey, M.D.**, and his research group continued to provide outstanding expertise to the University throughout 2002. The Stanley Foundation postmortem brain collection for research on schizophrenia and bipolar disorder has over 500 specimens; the USU Laboratory has distributed more than 100,000 sections and blocks of tissue to 120 research laboratories worldwide that are conducting research on these diseases. Some 55 large freezers contain the collection located at the Brain Research Laboratory in the USU SOM Department of Psychiatry. The specimens are approximately evenly divided among individuals who were diagnosed with schizophrenia, bipolar disorder (manic-depressive illness), severe depression, and normal controls. Most of the specimens are provided to researchers doing research on schizophrenia, bipolar disorder or depression. For example, during 2000, the Stanley Foundation donated a normal control specimen to a World Health Organization project dedicated toward the establishment of worldwide standards for brain tissue for comparison with prion-caused diseases such as Creutzfeldt-Jakob Syndrome. On April 9, 2001, The Washington Post featured Doctor Torrey in an article entitled, *Thinking Outside the Box*. The article included the following statement: *The Stanley Foundation is supporting a quarter of the research on schizophrenia and half of the research on manic-depression in both the United States and Europe*. And, in April of 2002, Doctor Torrey's article, *Severe Psychiatric Disorders May Be Increasing*, was published in Psychiatric Times, Volume XIX, Issue 4, April 2002.

When the Stanley Foundation initially assumed responsibility for the Neuropathology Consortium, it looked forward to the day when it would have hundreds of measurements on the same parts of the brain from many different laboratories. That task is being addressed through the work of **Doctor Michael Knable** who is assessing over 1,000 markers of brain function in the prefrontal cortex, cingulate, hippocampus, and superior temporal area. Many abnormalities from this study have already been published in Brain Research Bulletin (Volume 55, pages 651-659, 2001) and Clinical Neuroscience Research (Volume 2, pages 171-181, 2002); other publications are in progress.

In May of 2001, Morley Safer of *60 Minutes* interviewed Doctor Torrey with a focus on his research on schizophrenia and bipolar disorder. That interview was featured on the April 21, 2002 edition of *60 Minutes*. Doctor Torrey co-authored the book, Surviving Manic Depression: A Manual on Bipolar Disorder for Patients, Families and Providers (published by Basic Books, 2002); and, he was profiled in the American Medical News and the Stanford Magazine.

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Information Technology.

Background. During 1994, committees were formed at the University by the School of Medicine and the Faculty Senate to address USU's future use of computers and technology in general. With the future development of Information Technology (IT) and Medical Informatics at USU in mind, the University President sent a delegation of seven USU representatives to the American Association of Medical Colleges (AAMC) Information Technology Conference. The conference served to reenforce the University's inclusion of computer-assisted communication and technology within its strategic planning process. With total support from the leadership at USU, strategic goals were developed so that Medical Informatics would be utilized to emphasize distance learning, continuing medical education, computer-assisted medical education, access to medical databases, and other medical information systems. The focus of those efforts, in accordance with the University's mission, would be on the unique educational requirements of military and disaster medicine. In October of 1997, a number of USU information technology-related committees were combined to form the Automated Information Systems Policy Committee (AISPC). This committee has met, as required, to review guidance and objectives, identify resources, develop requirements, and plan information technology policy strategies and training.

Extensive technical improvements continued throughout 2002 in the following areas: servers; desktop computers; software development; teleconferencing; e-mail; network; and, teaching facilities. The USU Information Services Management Center (UIS), while continuously responding to user concerns, long-range technology refreshment plans, and the USU Strategic Plan, continues to implement numerous projects, in collaboration with USU's Core Management, to improve technology services, products, and its working relationships with the USU community. Improvements reported during 2002 include the following: **Servers:** Developed in-bound and out-bound servers for scanning e-mail. **E-mail:** Reduced the number of e-mail distribution lists maintained by UIS in support of the University's Strategic Plan. **Network:** Implemented the acquisition of large optical storage devices to support the archival requirements for University data. **Enterprise Database:** Successfully implemented the Personnel Locator System, which is Phase I of the University's Corporate Database System. **University Homepage:** The USU Homepage contains thousands of pages of information and over 33,000 links to additional information; the vast majority of USU departments now have active homepages and many are sharing teaching

and research information via the Internet on a regular basis; during 2002, USU Webmasters provided major support for the University's core web pages, to include compliance with Section 508 of the Federal Accessibility Act. **Training:** The UIS training officer provides on-going, face-to-face training for faculty, students, staff and Information System Coordinators, in addition to publishing a quarterly electronic newsletter, which provides information on IT issues; during 2002, the UIS training officer also developed the UIS Quick Reference Guide in support of the University's Strategic Plan. **Desktop Computers:** During 2002, UIS continued its on-going management of a three-year technology refreshment cycle for 916 desktop computers within the University and managed all of the USU-supported software for the central computing facilities. **Centralized Software and Support:** UIS tested, recommended, and implemented UIS-supported software, to include Operating Systems. **Teleconferencing:** UIS substantially improved systems for up- and down-links for the University's video teleconferencing systems. **UIS Professional Training.** UIS personnel continued to receive certification and training (e.g., MCP, MCSE, Oracle, Contracting, Supervisory, and Networking) that was utilized throughout the various USU departments and activities.

Customer Support. During 2002, UIS provided support for: almost 3,000 information systems users with: accessing e-mail, remote dial-in accounts, Internet Protocol (IP) and IP2 connections, and satellite and software applications; 1,500 dial-in-users; 2,750 telephone and fax lines; and, 1,200 Voicemail Systems located on campus, off-site at the National Naval Medical Center, other DoD facilities, and at some non-DoD entities. In addition, as the owner of a Class B Internet Protocol License, USU acts as an Internet Service Provider (ISP) for the National Naval Medical Center and 12 off-site DoD activities from Groton, Connecticut to Quantico, Virginia.

Desktop Computers. Following Assistant Secretary of Defense, Health Affairs (ASD/HA) guidance, a plan to lease desktop computers by the University has been implemented since 1998. The plan calls for all basic office automation and teaching computers to be replaced with leased systems. The UIS Helpdesk is about to oversee the fourth phase of the University's desktop computer leasing program. In 2002, 916 desktop computers were in a three-year technology refreshment cycle. The scheduled addition and cycled replacement of 342 leased computers took place during 2002. This process successfully ensures standardization, technology refreshment, enhanced budget planning, compatibility, and improved user support. UIS continues to manage $500,000 in contracts to support the leased machines and $256,000 to support software licenses for the central computing facilities.

Help Desk. A set of desktop tools, also based on ASD/HA guidance and USU requirements, was recommended by the AISPC and approved by the USU President. In addition, the University signed an agreement under a Maryland State Educational Contract (the Maryland Enterprise Educational Consortium (MEEC) with the Microsoft Corporation that provides site licenses at significantly reduced educational rates. This agreement allows the UIS Help Desk to make the latest Microsoft software available to all faculty, staff, and students. The selection of a single set of desktop tools has greatly simplified user support and improved the Help Desk response. During 2002, the Help Desk received 6,839 requests for assistance. The Help Desk resolved 3,422 customer requests, which included 145 tickets for dial-up requests and over 170 tickets for viruses; the remaining requests were assigned to other branches within UIS for action. Throughout the year, the UIS Help Desk alerts USU customers reference potential viruses and provides advice on the resolution of, and protection from, their harmful impact. Successful Help Desk projects during 2002 included: IP tracking and database maintenance; testing and deploying new software products; deployment and replacement of two rounds of leased machines; and, management

of USU supported products. The UIS Help Desk personnel continue to increase their knowledge through in-house training on standard operating procedures and off-site training to acquire professional certification, which, in turn, contributes to the reduction of calls and an increase in user productivity.

Software Development. In 2002, the UIS Information Engineering Branch (IEB) successfully deployed the USU Personnel Locator, a component of the USU Corporate Database. The Personnel Locator is a web-based, on-line directory of USU faculty, staff, students, and contractors. Viewable via a web browser, it provides location information such as the individual's telephone number, room number, organizational title, and other location information. Additionally, the on-line USU Phonebook was developed in conjunction with the Personnel Locator. Both applications replace old legacy systems. During 2002, the Information Engineering Branch successfully completed the analysis and design phase of software applications that support the Graduate Education Office, the Alumni Office, and the Laboratory Animal Medicine Center, all of which are components of the Corporate Database. These systems are scheduled for deployment in 2003. In 2002, IEB processed 1,038 customer requests. The Branch continues to staff a stable development team comprised of experienced software developers and a Database Administrator. The staff members hold Oracle and Microsoft professional certifications and employ the systems development life-cycle methodology in all software engineering projects. IEB formalized the processes for: performing systems analysis; confirming system requirements; implementing software code reuse; software testing; and, system roll-out, including system documentation and training. In an effort to provide the University with a state-of-the-art software application, IEB acquired upgraded Oracle 9i software, which allows former client-based applications to be converted into web-based applications.

Web Support. In 2002, the UIS Operations Division maintained and supported three web servers - *Primary*, *Interim*, and *Back-Up*. The Primary Web Server hosted over 3,500 web pages; it runs under Sun Solaris with a Netscape Enterprise Server as the web engine. The Sun Solaris administrator upgraded the operating system and created a procedure to watch the web server process for errors. If an error occurs, the procedure automatically logs the error and restarts the process, thus creating a 99 percent up-time status. The Interim web server supported 85 Page Masters within the University. The server runs under Red Hat Linux with Apache as the web engine. The administrator has patched security holes on this server, which creates a 99 percent up-time status. A new process for the back-up web server was installed to automatically update the web pages from the primary web server, thus allowing the back-up server to stay current with the primary web server. In 2002, the USU Web Masters from the UIS Information Engineering Branch continued to provide support to the University's Page Masters. This included a formal training program for the development and implementation of Section 508 of the Federal Accessibility Act, the use of the Interim and Operational Server, as well as a Page Master's User Guide for reference.

Web Development. Web development projects, during 2002, included the USU Personnel Locator, the USU Marine Corps Survey (second year), and the USU Social Work Conference (second year). The Web Masters used a systematic methodology to perform web development activities; web projects were developed using Microsoft ASP and ran on a Microsoft IIS server in a Windows 2000 environment. To ensure data integrity and security from intrusions, all servers were routinely monitored and backed-up.

Training. During 2002, the UIS Training Officer provided classroom training for all SOM, GSN, MPH, and Graduate Students at USU, as well as for personnel located at off-campus sites to include USU's leased space at Silver Spring, Maryland; the Walter Reed Army Medical Center; and, the National Naval Medical Center. The Training Officer also provided training for the newly developed USU Faculty and Staff Orientations, which are held quarterly. Specialized *hands-on* and *one-on-one* training were provided for users on Microsoft Applications, GroupWiseE-Mail, the proper use of network and computer resources, and network security. Support was also provided for all UIS software and special requirements. The Training Officer, partnered with the USU Security Office, provided annual security awareness training required for all faculty, staff, and students. Also, during 2002, the UIS Training Officer electronically distributed issues of the UIS Newsletter; developed and published the *UIS Quick Reference Guide*; and, developed a *UIS User's Guide*, currently in draft form. Both guides were developed in response to the University's strategic planning efforts to improve on-site and off-site communication.

System Operations. In 2002, UIS System Operations (Network, Telecommunications, NetWare, and VAX) produced significant gains in the stabilization of the network. General hardware remained the same, while a large emphasis was placed on server stability and the formulation of a USU-approved security policy; this security policy was implemented on servers, as well as firewalls and other support devices. Again, USU experienced a University WEB exposure of over 99 percent uninterrupted up-time.

Network. Network personnel are responsible for the University's network design, implementation, maintenance, and configuration management. In 2002, the UIS System Operations Division managed to keep all local distribution systems on-line with very limited down-time. A virus scanning filtering system was put in place using an open source product (LINUX). *This product prohibited more than 4,250 viruses from entering the University in 2002*, greatly reducing the quantity of viruses to which the University systems were exposed. The large data storage unit was brought on-line and produced an active on-line data retrieval system. Network Operations development and monitoring have produced a more robust and pro-active response to equipment failure. The Bethesda Naval Base Network, which is maintained by USU, retained 100 percent connectivity with a 99.9 percent Internet access. Loss of connectivity only occurred when planned maintenance was scheduled or when system updates were required.

Telecommunications. In 2002, UIS Communications personnel provided support for: 2,236 voice and fax telephone lines; 1,200 voice mailboxes; and, video teleconferencing and satellite technical assistance for a wide variety of users. Significant improvements were made in the reliability of communications, video conferencing, and satellite services. New telephone lines and support equipment were installed in several newly acquired locations. In addition, numerous telephone lines and support equipment had to be replaced throughout Buildings B and C. Video conference technology support was provided to the Graduate School of Nursing (GSN) for the VA/DoD Distance Learning Program as well as to the School of Medicine (SOM) Departments of Medicine, Preventive Medicine and Biometrics, Medical and Clinical Psychology, and Obstetrics and Gynecology. Satellite programs were also downloaded for the SOM Department of Preventive Medicine and Biometrics and the Armed Forces Radiology Research Institute (AFRRI). During 2002, the Telecommunications Branch processed 1,104 customer requests. The Branch was also responsible for upgrading the ATM circuit from 10 Mbps to 15 Mbps and for the installation of the Verizon Internet dial-up modem, which provides for faster and more reliable Internet connection and should minimize the current costly and more unreliable analog modem bank. During the

same period, forty-seven analog lines were determined to be no longer in use and were disconnected, resulting in annual savings for line rental fees. In addition, the Telecommunications Branch provided assistance to the Telecommunications Services Control Office (TSCO) at the National Medical Education Training Center (NMETC) in determining communications requirements, ordering equipment and service through the use of the WITS on-line ordering system; the Branch also assisted the NMETC TSCO in establishing an inventory database and provided instructions in the programming of various ISDN telephones in use within the NMETC command.

Netware. In 2002, the UIS Netware Branch processed more than 1,280 customer requests. Responsible for the Novell Local Area Network (LAN), the GroupWise E-Mail Servers, and two in-bound and out-bound servers, the Netware Administrators provided maintenance support for the following: back-up of over 600 gigabytes of data; space allocations; on-line support of hardware failures; virus protection; testing and implementing vendor patches and upgrades; LAN account creation and deletion; reliable mail and file storage; and, the maintenance, creation, and attrition of over 3,000 e-mail accounts and over 450 dial-in accounts.

VAX. The VAX Administrator processed more than 95 customer requests in 2002. The VAX Administrator is responsible for: system maintenance; account creation; hardware configuration; and, upgrading the Operating System to resolve problems that can cause frequent system crashes. The VAX Administrator successfully replaced the University's older and slower mainframe, which supported the USU financial system, with a more robust computer system. This replacement was performed at no cost the University. In addition, the VAX Administrator: reduced the overall cost of contracts by modifying equipment contracts; increased performance and reliability by adding enhanced disc drives; improved central support through the installation of software upgrades; and, enhanced the management of user accounts and print services.

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Technology Transfer Program.

Background. Since 1980, Federal law has encouraged Federal laboratories and public academic institutions to transfer inventions and other technology to the public sector, which includes industry, state and local governments, and other academic institutions. This "technology transfer" process allows the benefits of public investment in research and development to be shared with all segments of our society. At the same time, institutions which invest public and tax-free funds in research are permitted to share in the downstream financial benefits of this investment - returning funds for use in further research and to provide limited financial incentives for individual researchers. Technology transfer includes cooperative research and development, patenting and protection of intellectual property, and licensing of inventions in return for a percentage of royalties. Because of the legal issues associated with these mechanisms and other aspects of technology transfer, the USU Office of the General Counsel is directly involved in the oversight of the University's Technology Transfer Program. Recognizing the need to monitor and market the growing patent and intellectual property developed by the University faculty, the USU President determined that the Technology Transfer Program should be recognized as a formal entity within the University. In 1999, the USU Technology Transfer Program was formally recognized with a mission to enhance interrelationships with USU researchers and to facilitate interaction with the DoD Patent Office.

Since the establishment of the USU Technology Transfer Program by the USU President in 1999, it has become one of the most productive and successful income producers among all government agencies. This success has enabled the University to provide substantial funding support for USU research and significant monetary awards to individual scientists. University initiatives are advanced through the use of collaborative research and development agreements, licensing inventions, intellectual property protection, and partnering with designated patent management organizations. The Technology Transfer Program functions under the requirements of the Federal Technology Transfer Act of 1986 and related legislation, which encouraged making technology developed in Federal laboratories available to the public. As discussed above, the goals of the Act are to promote the disclosure of inventions and product development, stimulate economic development and promote research collaboration between Federal laboratories, public academic institutions, private industry, state and local governments, state-sponsored organizations, and other academic institutions.

Current Activities. Because the University is a leader in many areas of biomedical research, an academic institution, and includes Federal laboratories, the USU Technology Transfer Program has been, and continues to be, a successful effort. A significant indicator of the success of this program is its efficient facilitation of the sharing of the USU research in a manner that promotes progress in science and improvement in the quality of health care for both the Armed Forces and the world community. In 2002, the University entered into: seven Cooperative Research and Development Agreements (CRADAs); 54 Material Transfer Agreements filed in cooperation with the Henry M. Jackson Foundation (HJF); 13 patent applications; and, 14 provisional patent applications. And, USU licensed seven inventions. In addition, numerous faculty researchers received information and guidance from the staffs of the USU Office of Technology Transfer and the HJF Office of Technology Commercialization. Significant efforts were also made in managing and maintaining previously protected intellectual property, CRADAs, and licenses. Significant highlights, during 2002, also include: 1) continued development, in conjunction with HJF and several faculty members, of a Joint Patent and Technology Review Group; 2) involvement in the University's annual Research Day, including participation in a break-out session on technology transfer; 3) funding of short- and long-term research and educational efforts through special project funds and endowment accounts administered by the HJF; 4) direct funding support for the SOM's newly established Institute for Vaccine Research; 5) royalty sharing for nine faculty researchers; and, 6) assistance reference the limited funding of graduate student stipends.

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RESOURCE STEWARDSHIP

We will optimize resources to efficiently and effectively implement USU core capabilities.

- USU Strategic Plan, Goal 3.

New Construction on the USU Campus.

Background. Since 1978, there has been no additive construction to support USU activities despite the growth in the number of degree-granting programs conducted by the University and major increases in the cost-effective oversight responsibilities assigned to the USU by the Office of the Assistant Secretary of Defense for Health Affairs (OASD/HA). Some of the expanded responsibilities include: the Graduate School of Nursing (GSN); administration of the TriService Graduate Medical Education (GME) Programs for the National Capital Region; mandated professional Continuing Health Education (CHE); and, essential credentialing programs for the MHS. In addition, *the accrediting entities for the University have continuously recommended that USU address the expanded academic program requirements for small classrooms; and, they have expressed serious concerns over the separation of the GSN faculty and students between two locations, which adversely impacts student instruction, mentorship, and counseling*. Between September 1993 and December 1997, USU was prohibited from participating in the military construction process. However, following the December 1997 decision of the Secretary of Defense that the University should remain open, as stated in Program Budget Decision 711, the USU Vice President for Administration and Management (VAM) was directed by the USU President to provide oversight for the resubmission of all documentation and related efforts required for the construction of a fifth building on the USU campus.

On April 4, 1997, a Health Affairs site team determined that the construction of a fifth building at USU in Fiscal Year 2001 would eliminate leasing costs and would be cost-effective. Following that determination and extensive coordination by the VAM, on March 26, 1998, Design Authorization 98-N-10 was provided to the Naval Facilities Engineering Command with the following directions: 1) the inclusion was to take place in Fiscal Year 2001; 2) the scope of construction was to include 8,312 gross square meters; 3) the design amount was $15,000,000; and, 4) DD Form 1391 and a Draft Program for Design were provided with the authorization. The Navy Facilities Engineering Command completed its call for contractor bids on the design requirements for the USU construction project and remained on hold until the USU construction was approved by Health Affairs. In May of 1998, Health Affairs determined that construction at USU would not be included in the Fiscal Year 1999 Defense Health Program (DHP) MILCON package; and, the Surgeons General would be required to identify funding from their Medical Construction Programs if the USU project were to be included in the DHP MILCON Program. *In June of 1998, the Senate Committee for the 1999 Military Construction Appropriation Bill urged "the Department of Defense to address the requirement for a fifth building construction project in the Fiscal Year 2000 budget."*

During 1999, *the Military Construction Appropriations Bill for FY2000 included the following: "The Tricare Management Agency is directed to accelerate the design of this project* (the construction of a fifth building on the USU campus), *and to include the required construction funding in its fiscal year 2001 budget request."* In

response to the congressional directive, and, in its capacity as the Executive Agent for USU, on October 26, 1999, the Navy Bureau of Medicine (BUMED) Facilities Planning and Programming Division initiated the contracting process for a Project Planning Study. The first phase of the USU Project Planning Study, to develop a quantifiable needs assessment for space, began on December 6, 1999, at the USU campus. To facilitate the verification of the study, the Office of the Surgeon General of the Navy also established a Study Team to discuss and validate the identified requirements with appropriate entities within the MHS; and, the USU President also established an *ad hoc* committee to assist the VAM. A contractor was hired by BUMED, using USU funding, to prepare supporting documentation and the planning study.

To accommodate the rapid turn-around of the first phase of the study, which was to be provided in draft form to the TRICARE Management Agency by late January of 2000, the VAM organized and provided to all concerned parties, inclusive background notebooks that provided documentation, projected space requirements, and mission-related information for the nine entities included in the Planning Study: **1)** the Graduate School of Nursing (GSN faculty and staff are housed in leased space in Silver Spring, Maryland; the separation of faculty and students has been identified as a concern by the GSN accrediting entities; the new construction would: unify the GSN faculty, staff, and students; eliminate the leasing of space; and, facilitate the degree-granting GSN distance learning programs); **2)** USU small classrooms and lecture halls are scheduled at capacity and do not allow flexibility for the SOM or the GSN; the new construction would provide some 12,065 gross square feet of urgently required small classroom and lecture areas with distance learning/military readiness capabilities); **3)** Continuing Education for Health Professionals; **4)** the Military Training Network; **5)** Graduate Medical Education (to include the Administrative Office for the National Capital Consortium); **6)** the Office of Educational Affairs (to include USU readiness and simulation requirements); **7)** the Preventive Medicine and Biometrics TriService Tropical Medicine and Master of Public Health Programs; **8)** the TriService Nursing Research Program; and, **9)** requirements of the Office of the USU President, to include the USU Chaplain.

BUMED Study Validates the Proposed Construction. The BUMED Study Team focused on two primary areas of concern: 1) the functional shortfall of current and projected requirements for small, multi-functional, and multi-configuration capable classrooms; and, 2) the cost-effective relocation of the Graduate School of Nursing (GSN), Continuing Education for Health Professionals (CHE), the Military Training Network (MTN), and Preventive Medicine and Biometrics (PMB) staff from leased space to the USU campus. The BUMED Study Team coordinated a justification/validation process with the Services for the requested space. Following the validation process, a memorandum was completed by BUMED and forwarded by the Navy Surgeon General on February 17, 2000, to the Chair of the USU Executive Committee; the memorandum recommended that the Surgeons General pursue a joint decision to program funding for the proposed construction of Building E on the USU campus. On April 12, 2000, USU was informed by BUMED that a consensus had been reached among the Surgeons General on the following factors that represented the position of the USU Executive Committee: 1) the project represents validated space requirements and is needed; 2) the current estimated project cost ($9 million) is appropriate; and, 3) the project should be programmed by TMA (TRICARE Management Activity) utilizing standard MILCON processing milestones (i.e., FY05 or later). *On September 25, 2001, USU was notified by BUMED that its construction project was in the TRISERVICE Medical MILCON Program for Fiscal Year 2006 at a total cost of $9,300,000.*

Scope of the Construction Project. The total scope of the proposed construction project is 56,020 gross square feet, which includes underground parking. The Program for Design distributes 41,055 gross square feet to meet the University's requirements for ample circulation associated with the movement of students and staff

between classrooms. The 41,055 square feet will be constructed with a fibre-optic backbone throughout the occupied portions of the building and connected to the existing USU IT network. Breakout of the 41,055 square feet reflects as follows: Education Offices/Administrative Support - 21,315 gross square feet; Classroom/Classroom Support Space - 12,065 gross square feet; General Support (Toilets/Lockers, etc.) - 4,346 gross square feet; Distance Education Production Laboratory (Studio) - 2,654 gross square feet; and, Computer Learning/Testing Area (20 Stations) - 675 gross square feet.

Final Study Required for the USU MILCON Project Is Completed. The coordination process for the proposed USU construction project was developed using the Defense Medical Facilities Office, Office of the Assistant Secretary of Defense for Health Affairs Space and Equipment Planning Systems (SEPS). From November of 1999 through January of 2003, **Mr. James Burke**, Bureau of Medicine Facilities Division, provided extraordinary support to the USU VAM in the successful management of the entire process. The Bureau of Medicine, the Engineering Field Activity Chesapeake, the Naval Facilities Engineering Command, and the TRICARE Management Activity, Health Affairs, directly coordinated in the development of the construction project for USU. *The following studies/analyses were completed and provided in a Project Notebook dated October 2000:* the DD Form 1391; the Facility Study (to include graphic materials); the Site Survey Checklist; the Program for Design; the Economic Analysis; the Planning Study (to include validation of requirements); and, the Statement of Architectural Engineering Services. The *Environmental Assessment Study*, a process initiated in October of 2000, was coordinated and subsequently completed. In mid-November of 2001, USU was informed that the proposed construction would not adversely impact the environment; and, an Environmental Impact Statement would not be warranted. Based upon the Environmental Assessment findings, on November 29, 2001, USU forwarded, through its Chain-of-Command, a request to the Chief of Naval Operations (CNO) for a formal determination that the proposed construction on the USU campus would have no significant impact on the environment; *CNO findings of no significant impact and approval of the environmental assessment findings was dated September 17, 2002*.

TMA Approves Design Authorization for the USU Academic Program Center Project. The Military Construction Appropriations Bill for FY2003 included $1,300,000 for the accelerated design of the USU Academic Program Center. During December of 2002, BUMED requested that the USU VAM provide/present a briefing paper on the University and a tour of USU for staff from the TRICARE Management Activity (TMA). Next, the VAM, as requested, provided an overview of the on-going collaborative activities between the USU and the Department of Veterans Affairs (VA). *On January 8, 2003, USU was provided with documentation from TMA authorizing the design of the USU Academic Program Center Project at $9,600,000 and the approved Program for Design.*

The Architectural and Engineering (A&E) Firm Is Selected by the NAVFAC Medical Facility Design Office. The A&E firm selected by the Engineering Field Activity Chesapeake Naval Facilities Engineering Command was *Ewing Cole Cherry Brott* (located at 1025 Connecticut Avenue, S.W., Suite 900, Washington, D.C.). On March 17, 2003, representatives from BUMED, the NAVFAC Medical Facilities Design Office (EFA Chesapeake), and the A&E firm met at USU for a preliminary meeting pending the awarding of the contract for design. The USU President, the VAM, and the Facilities Division represented the University. *Following the awarding of the contract, on May 21-22, 2003, a pre-design conference was hosted at the Washington Naval Yard by EFA Chesapeake*. USU representatives included: the USU President; the USU VAM; the Deans of the SOM

and the GSN; the Directors of the USU Facilities and Logistics Divisions; members of the USU Offices of Continuing Health Professional Education and the Military Training Network; and, members of the GSN faculty. A large portion of the time was spent determining which activities would be placed on the ground, first, and second floors of the new building. The University was asked to respond to several action items following that conference which included: 1) scheduling the next A&E Conference at USU in mid-September, 2003; 2) co-locating conference rooms with movable partitions between the different USU activities to allow for maximum use of space; 3) determining the flexibility of the size of the classrooms (the USU Vice President for Teaching and Research Support resolved this issue with the two Deans after reviewing the actual use/requirements of classrooms at the University. It was decided that instead of having 12 small classrooms with movable partitions so that they could be re-configured into four larger classrooms, that USU would prefer one, 100-seat lecture hall and eight small classrooms with movable partitions); and, 4) the possibility of combining the administrative areas of activities located on the same floor. All information was provided to EFA Chesapeake by June 10, 2003. A field investigation was scheduled for the week of July 21, 2003, which will include a site visit to USU to conduct soil borings and measure the surface of the project area.

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Navy Base Allocation of Space to USU. From 1998 through 2001, the Vice President for Administration and Management (VAM), as directed by the USU President, and the USU Facilities Division coordinated with the National Naval Medical Center (NNMC) for the reallocation of space currently occupied by the Naval Medical Research Center (NMRC). NMRC began its relocation from the National Naval Medical Center to the Forest Glen community near the Walter Reed Army Medical Center during 1999; the relocation process for NMRC was completed during July of 2001. Inclusive reviews and cost analyses were conducted by the VAM and the USU Facilities Division; all findings were coordinated with the USU President, the Deans of the SOM and the GSN, the USU Vice President for Resource Management, and other appropriate USU management, to ensure that the projected renovation and annual costs for the reallocated space could be absorbed within the USU budget. Projected reviews and analyses included: 1) information systems requirements; 2) telephone, fax and copier equipment; 3) minor construction; 4) furniture; and, 5) maintenance costs to include utilities and janitorial services. Following agreement over funding sources and a thorough coordination process, the USU President approved moving forward to request the reallocation of space from NNMC to the University.

Memoranda of Understanding with NNMC Are Completed. USU and NNMC completed memoranda of understanding to reallocate responsibility (from NNMC to USU) for Buildings 53, 59, 79, 28, and 139 which had been vacated by NMRC. Building 53 was assumed by USU in July of 2001; Building 59 was turned over to USU during 1999; Buildings 79 and 28 were turned over to the University during 2000; and, Building 139 was allocated to USU in February of 2001.

By December of 2002, four USU School of Medicine Departments (11,969 square feet), the Graduate School of Nursing (635 square feet) and the Multi-Disciplinary Laboratories (676 square feet) occupied a total of 13,280 useable square feet in Building 53; Building 59 was occupied by the SOM Department of Military and Emergency Medicine with 1,066 useable square feet; and, Building 28 was occupied by the Graduate School of Nursing (GSN) and the SOM Department of Medical and Clinical Psychology in 2,571 useable square feet. In accordance with the USU Strategic Plan, which called for the acquisition of additional laboratory and administrative space for the University programs, *at the end of 2002, six SOM Departments occupied 14,320 square feet of space in the newly acquired buildings; the GSN occupied 1,920 square feet; and, the MDL controlled a USU*

Conference Room with 676 square feet. Over 16,916 useable and renovated square feet had been allocated to eight USU activities and departments.

Building 53. Building 53 is a two-story structure with an additional mid-level basement that houses the building and hyperbaric mechanical support systems. The allocation of Building 53, which includes approximately 32,285 square feet, addresses USU's urgent requirements for laboratory, administrative, and storage space; these requirements will **not** be addressed by the proposed construction of a fifth building on the USU campus. Building 53 includes 12 large laboratories and several thousand usable square feet of administrative space. At the request of the USU President, the Dean of the SOM directed his space committee to make recommendations through him to the USU President for the allocation of space on the second floor of Building 53. That process continued between 1999-2002 with the following results:

- **Department of Psychiatry.** The USU SOM Department of Psychiatry and the Stanley Foundation moved initially into first floor space in early 1999. Signed agreements were completed by all parties; and, the University has been reimbursed by the Stanley Foundation for an appropriate percentage of the costs of operating the building. Currently, the Department of Psychiatry and the Stanley Foundation, together, occupy approximately 6,567 square feet of laboratory, administrative and storage space on the first and second floors, to include hallway areas dedicated to the storage of freezers.

- **Department of Radiology and Radiological Sciences.** During 2000, the Department of Radiology and Radiological Sciences moved a Division, largely resourced by a grant, into 1,870 square feet of administrative and storage space on the second floor of Building 53; since then, an additional 156 square feet of storage space on the first floor has been allocated to the Division; resourcing was coordinated by the Vice President for Resource Management with the Department of Radiology and Radiological Sciences for extensive information system requirements and minor renovations; all have been completed, and the Division is currently occupying 2,026 square feet.

- **Graduate School of Nursing.** One room, on the second floor, with 635 square feet, was allocated to the Graduate School of Nursing for mentoring, counselling, and teaching requirements; minor renovation, which created five working areas, was completed; the space was used during 2002.

- **Department of Neurology.** The Department of Neurology was allocated one large laboratory (746 square feet) on the second floor; renovation plans were coordinated during 2001; construction, funded through a Neurology grant, began in March of 2002, and was completed during 2002.

- **Department of Medicine.** The Division of Clinical Pharmacology in the SOM Department of Medicine completed its coordination process; and, the relocation took place in March of 2002. Clinical Pharmacology currently occupies 2,630 square feet of laboratory, administrative, and storage space on the second floor of Building 53.

- **Naval Medical Research Center.** The Naval Medical Research Center, NMRC, as a result of collaborative efforts with the three USU Departments of Military and Emergency Medicine; Psychiatry; and, Anatomy, Physiology and Genetics and coordination with the USU Vice President for Resource Management,

was responsible, throughout 2002, for the maintenance and related costs of the hyperbaric chambers (hyperbaric chambers - 7,215 square feet) located on the first floor of Building 53.

- **USU Multidiscipline Laboratories - Common Area.** A large conference room, located on the second floor, with 676 square feet, was renovated during 2000, and was used throughout 2002, by the USU community.

- **Information Services Management Center.** The USU Information Services Management Center (UIS) has been allocated two rooms (approximately 318 square feet) for the storage requirements of the support equipment for the information systems in Building 53.

- **Remaining Space for Allocation.** Approximately 979 square feet (Rooms 53-111 and 53-112A), located on the second floor, remained open for allocation by the University Space Review Committee at the end of 2002. For Fiscal Year 2003, the annual utility bill for Building 53 (32,285 square feet) was estimated at $510,964; the estimated custodial requirements for one year were estimated at $111,487. The VAM will continue coordination efforts with the Vice President for Resource and Management and all entities allocated space within Building 53 for the equitable distribution of these costs.

Building 59. Building 59, a two-story structure, has 4,072 usable square feet that include an immersion pool/tank, a physiology lab, an instrumentation lab, and divers' lockers. Following minor renovations completed during 1999, investigators from the Department of Military and Emergency Medicine moved into Building 59. Building 59 receives its information systems support through equipment located in Building 53.

In addition to research grants administered by the Department of Military and Emergency Medicine, the immersion pool will also facilitate collaborative efforts between three University Departments (Military and Emergency Medicine; Anatomy, Physiology, and Genetics; and, Psychiatry). In addition, the course work presented in the Military Applied Physiology Course, Operational Emergency Medicine Skills, and the recently approved Graduate Education Program in Applied Human Biology (Undersea Medicine and Aviation Physiology) will be significantly enhanced by directly exposing students to the ongoing applied research in Building 59. Building 59 will support collaborative research for the above-mentioned USU Departments. The annual utility bill for Building 59 is estimated at $32,365; the estimated cost of annual custodial requirements for Building 59 is approximately $12,658.

Building 79. Building 79, adjacent to Building 59, is a two-story structure with an unfinished second floor; it offers 1,066 usable square feet. The annual utility bill for this building is estimated at $2,475; the annual custodial requirements will be calculated when the space is utilized; no expenses were obligated during 2002; and, by September of 2003, funding will have been obligated for the design and renovation of the building.

Building 28. Building 28 is a two-story structure with a total of 5,155 square feet. Renovation of the second floor was completed and by mid-2002, it was used by two USU activities: the Graduate School of Nursing and the SOM Department of Medical and Clinical Psychology. The two activities are located on the

second floor of the building in 2,571 square feet. Approximately 2,500 square feet of space on the first floor is currently being renovated for use by the USU/OSD Patient Safety Program; renovation is scheduled for completion in October of 2003. Utility costs during 2002 were $1,242; the annual custodial costs were $3,322.

Building 139. Building 139 is a one-story structure with approximately 5,562 square feet, which was made available for the USU SOM Department of Surgery and the USUHS/Windber Medical Center/Walter Reed Army Medical Center/Department of Navy Clinical Breast Care Project, during 2002. This research project utilizes a multidisciplinary approach as the standard of care for treating breast diseases and breast cancer. The multidisciplinary model integrates prevention, screening, diagnosis, treatment, and continuing care; the project is further unique in the proposed incorporation of advances in risk reduction, informatics, tissue banking, and research. The Clinical Breast Care Project paid for all required renovations; it also paid all costs associated with the building to include utility, maintenance, and custodial requirements during 2002.

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USU Facilities Division Project Listing Serves as the Strategic Plan for Construction and Renovation Requirements at the University.

Background. For six years, the USU Facilities Division, under the direction of the USU Vice President for Administration and Management (VAM), has successfully coordinated with the Navy Public Works Center (PWC) to streamline and maximize the process for obligating funding for urgently required renovation projects throughout the University's infrastructure, during, and at the end of, each Fiscal Year. Such a process requires extensive documentation and must comply with DoD regulations for the acceptance of funding by PWC or the USU Contracting Office.

During each Fiscal Year, the Facilities Division meets weekly with PWC personnel and the VAM to: 1) ensure open communication; 2) resolve on-going concerns and issues during the implementation of previously funded projects; and, 3) ensure the preparation of documentation for future projects and the on-going obligation of funding as it is identified by the USU Vice President for Resource Management. The Project Listing is regularly updated and provided by the Facilities Division to all participants at both PWC and USU to ensure that this demanding process is both open and accurate, to include the required monitoring of on-going projects and the maintenance of complete and accurate status information.

The Facilities Division Project Listing currently includes the following information: 1) the status of unfunded projects for the current Fiscal Year, to include design and construction costs; as of April 2003, there were 43 active projects in this section of the Project Listing; 2) totals and status of completed documentation submitted to the USU Office of Resource Management for projects recommended for funding in the current Fiscal Year; 3) totals and current status of projects already funded during the current Fiscal Year; as of mid-2003, $4,325,574 had been funded during the current Fiscal Year; and, 4) the current status of all previously funded projects during past Fiscal Years; from June 4, 2002 through September 30, 2002, a total of $9,165,975 had been obligated by USU with the PWC.

This process is both time consuming and complex; however, it has been found to be most acceptable by both PWC and USU management. The Facilities Division Project Listing serves as the Strategic Plan for the Construction and Renovation Requirements for the entire USU complex. As projects are completed, new requirements are constantly being identified by the PWC engineers and the USU Facilities Division; once recognized, they are entered into the Project Listing and begin the documentation and funding process. As a result, the USU campus is well maintained and reflects excellent stewardship on the part of the leadership of the University. Without the Facilities Division's time-proven process, the University would not be in a position to accept funding from Health Affairs or other sources during, or at the end of, each Fiscal Year. During the past three years, the support from the USU Vice President for Resource Management (RM) has been excellent. The VAM and Facilities Division spend many hours coordinating with RM to ensure that the infrastructure of the USU campus is well maintained through the obligation of funding with the PWC. The on-going selection, design, and renovation of research laboratories has also been streamlined through the decision-making process established by the Dean of the School of Medicine on July 2, 2002; the laboratory renovation process is coordinated with the USU Vice Presidents for Research and Resource Management.

Laboratory Renovations throughout Buildings A, B, C, and D. During 2000, with the approval of the USU President, and the identification of funding by the Vice President for Resource Management, the VAM and the USU Facilities Division provided oversight for the renovation of 2,310 square feet of laboratory space throughout the USU complex. Laboratory renovation was completed, through the Dean, SOM, for four Departments: Biochemistry; Obstetrics and Gynecology; Radiology and Radiological Sciences; and, Anatomy, Physiology and Genetics. During 2001, one laboratory with 468 square feet was renovated within the Department of Biochemistry. With the 33,127 square feet of renovated laboratory space that took place from 1993 through 2000, combined with the 468 square feet of renovation during 2001, the total of renovated laboratory space is approximately 33,595 square feet. *This amounts to 38.6 percent of the 86,926 square feet of laboratory space in the USU complex*. Three office areas within the SOM were also renovated for the Department of Anesthesia for a total of 559 square feet; in addition, 380 square feet of office space was renovated to accommodate the relocation of University Affairs. *During 2002, $693,992 was funded for laboratory renovations through collaborative efforts with the VAM, the USU Facilities Division, the Dean of the School of Medicine, and the Vice Presidents for Resource Management and Research.*

Renovated Space in Building 53. Throughout 2000 - 2002, with the approval of the USU President (and the identification of funding for projects by the Vice President for Resource Management), *the USU Facilities Division provided oversight for contracted work, support, and manpower from its Division staff for the renovation of a total of 7,899 square feet of laboratory and administrative space in Building 53*. The SOM Departments of Medicine (Clinical Pharmacology - 2,630 square feet), Psychiatry (1,932 square feet), and Radiology and Radiological Sciences (2,026 square feet) represented a total of 6,588 square feet of renovated space for the SOM; the Graduate School of Nursing had 635 square feet renovated for mentoring and educational use; and, the MDL Division of Teaching and Research Support had a conference room with 676 square feet renovated for use by the entire USU community. All of the extensive relocation and furniture requirements for the USU personnel assigned to these renovated spaces were coordinated by the USU Logistics Division. *During 2002, $207,366 was funded for an additional lab renovation project in Building 53.*

Heating/Ventilation/Air Conditioning (HVAC) Replacement Project. Following the identification of environmental and health concerns reference the necessary air exchanges required throughout the USU complex and the inability to procure replacement parts for the antiquated USU HVAC systems in Buildings B, C, and D, the VAM and the Facilities Division, with the approval of the USU President, coordinated with the Public Works Center (PWC) to design a complete replacement of the USU HVAC system. Building B was selected as the first area for renovation because it had the poorest air exchange in its laboratories. Phases 1 through 7 have been completed. Phases 1-7 ($8,900,000) included the construction of a mechanical room and the replacement of the HVAC system throughout Building B; this project began during 1999 and was completed in October of 2001. Phases 8 ($2,351,692) and 9 ($2,091,686) included Building C and were completed at the end of 2002. Phase 10 ($3,819,293) includes Building D and is scheduled for completion in November of 2003. Since Building A includes a different HVAC system than Buildings B,C, and D and replacement parts are available for its HVAC system, air-handlers and ductwork in Building A will be renovated as appropriate in future years. This expansive HVAC renovation project, including approximately 330,000 square feet, has required the continuous relocation of various USU personnel; both the USU Logistics and Facilities Divisions have dedicated extensive time and support to minimize disruption to the USU mission.

Anatomical Teaching Laboratory Renovation Efforts. During 1998, it was identified that the backroom/ storage areas containing the freezers and work space for the Anatomical Curator required significant renovation. Late in Fiscal Year 2001, the VAM requested a review of the project and began coordination with the USU Vice Presidents for Resource Management and Teaching and Research Support for the renovation of both the work areas and the freezers. With the approval of the USU President, and the identification of funding by the Vice President for Resource Management, the Facilities Division coordinated with the Navy Public Works Center for an accelerated design for construction. That effort concluded successfully and $201,254 was obligated for the construction requirements during September of 2001. Resource Management, through the USU Contracting Directorate, also obligated funding for the purchase of new freezers. The project was successfully completed during March of 2002.

Plaza and Elevator Repair. When the University was originally constructed, a drainage system had not been provided under the plaza. As a result, there had been a steady leakage of water throughout the underground garages and various areas at the ground floor level. Separate attempts had been made to correct this concern over the past years; however, none resolved the problem. During 2000, the Facilities Division worked with PWC to design a repair project for the plaza which included four phases. The first two phases were funded during 2000 and completed. Funding in the amount of $654,112 was funded in September of 2001 for the final two phases. Work was completed during 2002 and the contractors also finished some minor related projects to include the replacement of concrete.

Funding has also been obligated for the repair/renovation of the elevators in Building A (three elevators) and Building B (four elevators), and Buildings C and D (four elevators). Determination of the order of renovation for the 11 elevators throughout Buildings A, B, C, and D was based on the number of repair calls and general deterioration of the individual elevators. The renovation of the 11 elevators will take place one at a time to reduce the level of inconvenience to the USU community; estimated construction time per elevator is four months. Construction of the Building A elevators began in August of 2001 and was completed during December of 2002. Construction of the Building B elevators began in October of 2002, with a projected completion date of late 2003.

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USU Campus Meets National Naval Medical Center Fire Regulations.

Background. Following the events of September 11, 2001, regulations for the enforcement of fire codes have been revitalized throughout the Federal Government. Within minutes of the terrorist attack at the Pentagon, occupants found themselves struggling to breathe due to heavy smoke while they crawled along office floors and hallways to escape the resulting fires. This experience has reenforced the absolute necessity of providing written instructions, training, detailed evacuation routes, and unrestricted escape routes (hallways) for all personnel. Due to the shortage of office and storage space throughout the USU campus, complying with the mandatory fire regulations has proven to be an on-going, difficult, yet successful process. On August 14, 2002, the USU received a memorandum from the National Naval Medical Center (NNMC) Fire Chief that identified specific areas of concern and fire code deficiencies. The USU Vice President for Administration and Management (VAM) coordinated a memorandum that was distributed to all USU personnel on September 12, 2002. That memorandum addressed two major areas of concern: 1) occupant instruction and training regarding fire safety; and, 2) the clearing of all USU hallways in Buildings A, B, C, D, 53, 59, and 28. The USU Facilities, Logistics, Administrative Support, and Security Divisions worked directly with the SOM department chairs and administrative officers to meet the NNMC fire and safety regulations.

Actions Completed to Bring the University into Compliance with Fire Regulations. The first action concerned the USU Instruction providing the *Occupant Emergency Plan* for the University; it was updated and re-issued on October 25, 2002. Copies were provided to all activity heads and chairs and the instruction was also made available on the USU Web Site. A process has been implemented so that all current and new employees are made aware of the Occupant Emergency Plan. Next, *Emergency Evacuation Personnel Listings* of those USU personnel designated with specific responsibilities during an evacuation such as hallway monitors, assistants for the handicapped, etc., were updated and issued to all activity heads and chairs. The Director of the USU Security Division met with all personnel included on the listings to ensure that they were fully prepared to carry out their responsibilities. The USU Security and Facilities Divisions also *identified and verified all evacuation routes and posted evacuation signs throughout the USU campus*; this information is also posted on the USU Web Site. Following an emergency evacuation drill coordinated with the NNMC Fire Chief on November 8, 2002, the VAM issued a briefing paper to the USU community on November 19, 2002, on *emergency evacuation procedures*. The focus of the briefing paper was on the critical requirement for compliance and specific directions on what actions should be taken during an emergency evacuation. All activity heads and department chairs are responsible for ensuring that all of their personnel know the evacuation routes and procedures to be followed during an emergency evacuation. Two *training sessions were coordinated by the USU Security Division during January of 2003*.

The most difficult requirement for compliance included *the clearing of all hallways throughout the USU campus*. All hallways had to be cleared except for the following items: already existing duplicating equipment and one filing cabinet per principal investigator/course instructor. Nothing can be placed on top of the filing cabinets; no storage cabinets may be placed in the hallways. Approved items must be placed on only one side of the hallways, to include the carts and trash cans that are placed inside the laboratories at the end of each working day. The VAM and the Facilities, Logistics, Administrative Support, and Security Divisions established a schedule for meeting the NNMC Fire Regulations and conducted inspections throughout the entire campus. Since the process began during late 2002 and was successfully completed in March of 2003, *over 200 filing cabinets have been removed from the USU campus*. This is an incredible accomplishment on the part of the USU community.

It was a time-consuming and difficult process, which included an extensive review and disposition of files, equipment, and supplies by the activity heads, chairs, and their administrative officers. In support of this effort, over 100 file boxes have been stored in the record management holding area of the Administrative Division; and, additional storage areas were constructed, in coordination with the NNMC Fire Chief, on the second-floor walkway between Buildings B and C. Those storage areas were distributed in a manner to ensure compliance with the NNMC Fire Regulations. *At this time, the University has satisfactorily met all requirements of the NNMC Fire Chief.* The VAM and the Facilities, Logistics, Administrative Support and Security Divisions continuously inspect the hallways of the entire campus to ensure on-going compliance.

Resource Management Programs.

Background. The areas of responsibility described below are under the oversight of the USU Vice President for Resource Management. **Mr. John E. Dexter** was selected as the first USU Vice President for Resource Management in June of 1990; he served in that capacity until his retirement in January of 2001. Following an extensive search, the second USU Vice President for Resource Management, **Mr. Stephen C. Rice**, was selected and assumed the position in January of 2001.

Financial & Manpower Management Directorate. The University's Financial & Manpower Management (FMG) Directorate successfully closed out the Fiscal Year 2002 Operations and Maintenance account (one-year money) with obligations of $98,806,000, for an obligation rate of 99.995 percent. During the last quarter of Fiscal Year 2002, the University received an additional allocation of $2,243,000 to be applied against long-standing deficiencies in the University's maintenance and repair budget. FMG, in coordination with the USU Facilities Division, obligated funds through the Navy Public Works Center for the completion of the main campus elevator upgrades and the renovation of additional space for the USU Simulation Center located at Forest Glen. The University was also able to make significant progress on its equipment back-log, funding over $1,100,000 in support equipment.

Once again, the University maintained the finest Travel Card Program in the Department of Defense. USU's delinquency rate average of only 0.50 percent far exceeded the Department's *benchmark* of 3.0 percent. What makes this record noteworthy is the fact that hundreds of claims reflect long-term travel (30 days or more), but the reimbursement process is so prompt, for both partial and final settlements, that travelers are not inconvenienced. The level of support from the USU President, Deans, and Vice Presidents ensures the continued success of this highly visible program.

The University's reimbursement/charges for accounting support received from the Defense Finance and Accounting Service (DFAS) decreased by $225,000, or over 31 percent during Fiscal Year 2002 (from $718,000 to $493,000). This is primarily the result of the USU Accounting Systems & Policy Division's oversight and the provision of additional support to DFAS in the preparation of accounting reports. Implementation of procedures to collect for the cost of procurement services provided to other organizations on direct-cited funds saved $240,000 of USU administrative costs in comparison to zero recovery in prior years. FMG is actively participating in the University's on-going efforts to identify a modern replacement accounting system for the currently-used College and University Financial System (CUFS), which must be compliant with Federal and DoD requirements. FMG has worked closely with DFAS and the TRICARE Management Activity (TMA) to help implement the daily transfer of detailed accounting data into the DFAS Corporate Database (DCD) from CUFS. This daily transfer of data should be implemented during 2003.

Two significant financial management initiatives were continued during 2002. First, Resource Management staff have added new vigor to the mid-year review process, meeting individually with each Chair, Vice President, and Activity Head. This has resulted in an increased level of detail and justification during the University budget submission process, which has led to a clear articulation of priorities and the better use of resources.

Contracting Directorate. During 2002, the USU Contracting Directorate provided significant support to the many unique programs of the School of Medicine, the Graduate School of Nursing, University Activities, the Armed Forces Radiobiology Research Institute (AFRRI), and numerous DoD initiatives and programs. The Directorate processed over 2,000 USU (Operations and Maintenance (O&M) funded) requisitions for approximately $4,500,000 in support of USU Departments and Activities. The Contracting Directorate also received 209 AFRRI (RDT&E-funded) requisitions for approximately $1,100,000. In addition, the Directorate received approximately 41 funding documents, totaling $14,274,602, from numerous Federal and DoD agencies. These agencies were requesting USU contractual support for the DoD programs, to include funding for numerous scientific research programs, contracted with the Henry M. Jackson Foundation (HMJF) for the Advancement of Military Medicine. Some examples of major contractual efforts during 2002 include the following: 1) the USU SOM Department of Preventive Medicine and Biometrics (PMB) Medical Executive Skills Training Program, which provides training to the military's health care executives; 2) A research collaboration with the State of California, which resulted in a contract for $150,000 for the California Military Tobacco Study; 3) the Casualty Care Research Center (CCRC), which provides support and consultation services to several Federal Agencies, to include the FBI's Hazardous Materials Response Training Program and the United States Marshals Service; 4) the Deployment Health Center located at the Walter Reed Army Medical Center, which conducts research on a variety of diseases encountered during deployments; 5) the Center for Prostate Disease Research (CPDR), which conducts research into prostate disease through funding provided by the CPDR Endowment, currently valued at $25,909,000; 6) the Center for Disaster and Humanitarian Assistance Medicine (CDHAM), which is providing training and education for DoD, Mexico, and other Central and South American countries; 7) the Center for Ergonomics and Workplace Health, which is studying ways to make the Federal workplace a healthier and more productive environment; and, 8) a personal services support contract for the United States Army Center for Health Promotion and Preventive Medicine.

In addition to the above programs, the Directorate also awarded approximately 90 equipment contracts with a total value of over $3,400,000 in support of the University's annual Equipment and Unfunded Requirements Program. The Directorate also awarded eight construction contracts for approximately $195,000 for work at USU and AFRRI, including an A&E contract for a renovation design for the USU Health Clinic. All of the construction projects were awarded to 8(a) Small and Disadvantaged Businesses. During 2002, the USU/AFRRI Government Purchase Card Program continued to expand with over 20,600 purchase card transactions conducted, totaling approximately $9,770,000 in purchases. The Directorate now administers and manages funded programs valued at well over $50,000,000. Contracting once again met DoD competition and socio-economic goals.

Grants Management Office. In its third year of operation, the Grants Management Office (GRT), awarded 16 new grant agreements, worth more than $33,000,000; and, it completed over 100 modification actions to existing awards. Currently, the Grants Management Office manages 125 active USU agreements ranging from $5,000 to $29,000,000. The total award value of all awards is approximately $328,000,000.

There are more than 75 principal investigators conducting work on research projects awarded to 12 grant recipients. A majority of the awards goes to the Henry M. Jackson Foundation and the remaining is awarded to other non-profit organizations including universities, private foundations, and institutions. Currently, there are 33 agencies providing funding support for the active grants. The Grants Management Office processes an average of 48 invoices per month for payment. These invoices are paid at nine different pay stations, at DoD and Federal civilian sites.

The Grants Management Office also provides oversight for the TriService Nursing Research Program (TSNRP), a $6,000,000 annual program with more than 70 grants. TSNRP is a congressionally-funded program, which is supported by a staff and an Executive Director, who also serves as a Deputy to the USU Grants Officer.

Significant accomplishments during 2002 include the following activities: 1) converted the Defense Brain and Spinal Column Injury Program (DBSCIP) from a grant agreement to a cooperative agreement; this conversion was necessary due to increased involvement of the government in the program; 2) developed a *salary cap policy for grant and cooperative agreement awards* made by USU, following National Institutes of Health (NIH) guidelines, limiting salaries to Executive Level I; 3) developed *an annual adjustment amount policy* to limit the price changes on grants and cooperative agreements by USU, using the Consumer Price Index as applied by NIH; 4) *implemented the Electronic Certification System (ECS) for invoices*, by working closely with DFAS in Columbus, the grant recipient (the Henry M. Jackson Foundation), and the DFAS in Charleston; the ECS system allows the USU Certifying Officer to review and approve invoices electronically, thus decreasing payment time and reducing paperwork; 5) established a close working relationship with the DoD Grant Policy Chief to keep abreast of changes and to request guidance and assistance as needed for grant compliance issues; GRT is seeking participation in the Federal Demonstration Project in order to streamline and standardize the grant management process; 6) provided orientation for new principal investigators (PIs); developed a list of items and processes to familiarize new PIs with procedures, processes, and individuals providing administrative support; and, 7) *distributed award documents electronically using the Procurement Document Format*; distribution and informational copies of documents are made available by formatting the documents in PDF and sending them electronically to the recipient, investigators, and other parties.

Resource Management Information Office. The Resource Management Information Office (RMI) includes the Systems Administration Branch and the Information Systems & Services Branch. The RMI develops, maintains, and administers all University resource management information systems, primarily, the College and University Financial System (CUFS), DoD's Standard Procurement System (SPS), and the Research Administration (REA) Grants Management System (COEUS). During 2002, the RMI worked on two major University initiatives and accomplished the following: 1) served as the Lead Agent for the USU Resource Management Information System Search Committee; as part of the continuing effort to replace CUFS, the University's principal management system, the RMI was instrumental in orchestrating the fit/gap analysis of the Defense Finance Accounting System - Headquarters' (DFAS-HQ) E-Biz System Initiative, to determine its ability to meet the University's functional requirements; and, 2) developed a Research Activity Reporting System; the RMI developed a data repository and reporting tool for collating financial, personnel, and grant information. This reporting system provides tracking, analysis, and projection modeling capabilities for use by research activities at the University.

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